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ABSTRACT

The second of a two-volume report, this document focuses on the study of written language growth and development among 3-, 4-, 5-, and 6-year-old children. The first section of the report introduces the program of research by examining its methodological and conceptual contexts. The second section provides illustrative and alternative looks at the young child as writer-reader and reader-writer, highlighting key transactions in literacy and literacy learning. The third section pulls together and identifies how the researchers' thinking about literacy and literacy learning changed as a result of their research and offers an evolving model of key processes involved in literacy learning. The fourth section comprises a series of papers dealing with the spelling process, children's writing development as seen in letters, rereading, and the role of literature in the language pool of children. The fifth section contains taxonomies developed for studying the surface texts created by children in the study. Extensive references are included, and an addendum includes examples of task sequence and researcher script, "sample characteristics" charts, and sample characteristics summary statements. (FL)

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THE YOUNG CHILD AS WRITER-READER,
AND INFORMANT

FINAL REPORT

February 1983

by

Jerome C. Harste
Carolyn L. Burke
Virginia A. Woodward

with

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Carolyn L. Burke
Virginia A. Woodward

1983

Preface to the Volume

This volume is the second of two volumes covering a program of research with preschool and elementary aged children which has as its function the study of cognitive processes involved in learning to read and write. While both volumes include reading and writing data, the first volume, Children, Their Language, and World: Initial Encounters with Print, highlighted the young child as reader-writer; this volume highlights the young child as writer-reader.

Section 1 of this volume introduces the program of research by examining its methodological and conceptual contexts. Section 2 provides illustrative and alternative looks at the young child as writer-reader and reader-writer. By casting and contrasting co-occurring patterns which we identified in our data against recent work in psychology, sociology, and linguistics, key transactions in literacy and literacy learning are highlighted. Section 3 pulls together and identifies how our thinking about literacy and literacy learning has changed as a result of this program of research and offers our evolving model of key processes involved in literacy learning. Section 4 includes a series of papers written for this volume describing individual studies which were conducted by research associates, visiting scholars, and graduate students who in one way or another were involved in this research program. They are included to illustrate the variety and kinds of follow-up child as informant studies used to verify and extend our understanding of patterns identified in our base videotape data bank.

This volume has been written to and for our teacher and researcher colleagues in hopes of expanding their thinking and stimulating a collaborative pedagogy. Despite this being a second volume, it is best viewed as a milestone in the midst of an on-going program of research. In it we attempt to record some of the general and specific insights which our informants gave us, some leads which merit further investigations, but most of all the present and long term benefits of using the child as curricular and research informant.

Jerome C. Harste
Carolyn L. Burke
Virginia A. Woodward

February 1983

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We want to express our thanks to the parents of our informants, the Indianapolis Public Schools, the Early Childhood Learning Center, Little People's Prep, the administrators in these organizations, and the many others who in one way or another assisted us in contacting and videotaping our informants. Special acknowledgements must also be given to the many teachers from around the country who, after listening either to us or to our informants, shared their surprise, their dismay, their insight, their hope, or their research, but who, in so doing, became informants in their own right.

We wish to give very special acknowledgement to the following individuals who participated as research associates on the project: Chrystine Bouffler (Riverina College of Advanced Education, Wagga Wagga, Australia), Katherine Busch (Indiana University), Jean Anne Clyde (Indiana University), Joan Chubb (Indiana University), Linda Crafton (Northeastern Illinois University), Karen Feathers (Indiana University), Judith Newman (Dalhousie University), Heidi Mills (Indiana University), Marjorie Siegel (Indiana University), David Whitin (Indiana University), and Nancy Vargus (Butler University).

Special acknowledgement must also go to Margaret Atwell (California State College, San Bernardino), Diane DeFord (Southern Illinois University), Mary Hill (Westminster College), Stephen Kucer (Indiana University), and Lynn Rhodes (University of Colorado, Denver) who helped us embark on this effort and who have faithfully followed up on related research which both complements and extends this program of research. To them, and other teachers and graduate students who conducted child-as-informant curricular and research studies, our thanks for extending not only our research, but also our thinking.

Readers might well wish to compliment, as we do, several individuals who have greatly increased the text potential of this graphic display by their typing and editing efforts. They include Jan Harste, Judith Newman, and Jean Anne Clyde.

While there are many to acknowledge, few are as important to this project as are our informants. At their most predictable and unpredictable moments they forced us to grow, leading us to discover and rediscover not only some of their literate secrets but also some of their most literate friends--both young-young (like Zach, Kristie, Eric, Robin and others whom you will soon meet), and young-old (like Vygotsky, Piaget, Dewey, Graves, King, Whiteman, Shuy and others whom you will soon re-meet).

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1.0 INTRODUCTION TO THIS PROGRAM OF RESEARCH

This volume will attempt to explain our thinking relative to key sociolinguistic and psycholinguistic processes involved in the evolution of literacy. By process we mean the cognitive stances which language users assume, and the strategies or cognitive activities which language users engage in, during a literacy event. We see language as sociologically rooted and language learning as only understandable when viewed within its social context. Psycholinguistic processes have their genesis in the literacy demonstrations made available to language learners as they encounter the members of their interpretive community engaged in the psychological and sociological actions associated with literacy.

We do not propose a new method of reading and writing instruction, nor do we propose a new way of classifying written language learners for purposes of instructional remediation. Our objective is to interpret the processes from the point of view of the learner on the basis of data obtained from preschool and elementary school children-- the majority of whom were 3 to 6 years of age -- over a six year period.

This does not mean we will ignore the instructional issue. All action is rooted in belief (Kuhn, 1975). Similarly, all instruction is rooted theoretically in a set of beliefs about language and language learning whether these beliefs are stated explicitly or operate implicitly (Harste & Burke, 1977). Educational research ought to affect practice. Even basic research, such as that which we report, ought to illuminate false or faulty assumptions about the language and language learning process which undergird instruction. By illuminating faulty assumptions, instruction and instructional practice rooted on these assumptions must give way. We mention this to dispel any faulty notions about who we are, what our ultimate goal is, and what it is we have and have not done.

Understanding the profession's beliefs, as well as its misgivings, is key to understanding the methodological and conceptual contexts within which this volume and our thinking must be framed. These beliefs form part of the 'conceptual context' within which the evolution of literacy in our society occurs, and hence are, of necessity, an integral part of the study. Further, because of the nature of research, the profession's current beliefs are an integral part of any research process, and so form a 'methodological context' for our study.

1.1 THE METHODOLOGICAL CONTEXT OF THIS RESEARCH PROGRAM

It would be a mistake to assume that the methodological issues we discuss and our resolutions are 'asides' and not part of our research program and findings. The methodological issues as well as our resolutions are the concerns of research when a 'process' as opposed to a 'product' view of language and language research is being attempted.

If language is a socio-psycholinguistic process, then a methodology is needed which does not theoretically violate this premise. Our study raises this issue and essentially explores how we came to substitute one set of methodological beliefs for another.

Research and Curriculum as Theoretically Based. At an intuitive level the goal of science is to identify a set of basic immutable facts upon which a discipline's knowledge might be built. While this thinking seems reasonable, upon examination it proves untenable.

Through a series of papers on essentially the ethics of science, Peirce (1931-1958), probably now recognized as America's greatest philosopher, slowly convinced the science community that such a "fact seeking agenda" was unworkable, as any 'fact' contained countless assumptions which would first have to be verified.

He argued that science could only proceed on 'belief', a statement seemingly enough in harmony with what is currently known that it could form the basis upon which one might act. Since there is no way to arrive at 'fact', the best that can be done is to proceed recognizing that what one is proceeding upon is 'belief' or 'networks of beliefs'. Once evidence is gathered that a belief is faulty a new statement of belief, on which one now is willing to act, must be generated.

One is struck by the large number of thinkers in our century who, apparently independent of Peirce, have formulated the problem of knowledge in similar terms. Especially striking is Otto van Neurath's famous simile:

> Scientists are like sailors who have to rebuild their ships at high sea, without being able to seek port. Each plank in the hull may be jettisoned in the process, but it is not feasible to jettison all of the planks at the same time. (as quoted by Skagestad, 1981, p. 19)

Educators must act; they cannot now, nor could they years ago, wait around until all the data are in. But just as they must act, they must also realize that what they are acting upon is 'belief', not 'truth' or 'fact'. While "sailing their ships at high sea" it behooves them to examine the beliefs or "each plank in the hull."

To conduct educational research, or plan educational curriculum, researchers and teachers must operate on some set of beliefs. Nonetheless, if our profession is to advance on the basis of science, productive educational research as well as productive curriculum development must be conducted in such a fashion that the assumptions underlying them might be examined. If what the researcher or teacher finds does not match what the researcher or teacher assumed, then a new set of assumptions must be made. To do otherwise is to be left building practice on practice with no advancement in knowledge.

We hold that the goal of educational research is understanding. To perpetuate and disseminate any practice because it "works" is to take an anti-intellectual stance (Goodman, 1980). Those who advocate a 'model-programs approach' or who wish to 'develop curriculum' but do not explore the issues underlying that curriculum, must understand, no matter their good intent, what an academically unfriendly position they take.

It is important to understand that the research and curricular issue here is not whether to be assumptive or not. To think one is not being assumptive is to be intellectually dishonest to both oneself and one's intellectual history.

The real issue is methodological. This methodological issue is too complex to pose as residing on whether the role of research is to 'lend credence to' or 'find out'. The point is that it must always be both.

As professionals we have not only the right, but the responsibility to be assumptive. But--and one must hastily add the 'but'--as professionals we have the responsibility to constantly put those assumptions on test.

Towards a Collaborative Pedagogy and Practical Theory. Based on our experience, we believe a viable methodological stance for the profession to assume is in using open-ended, real language situations in which the child or language user becomes the research and curricular informant. By real language situations we mean functional instances of language where all systems (graphophonemic, syntactic, semantic) in the event are allowed to transact with the other communication systems which co-occur.

Given such a position, it should be noted, the roles of researcher and teacher become much the same. This is an important methodological shift. In effect this position holds that the traditional gap between researcher and teacher is in the end dysfunctional and fails to serve the profession. Acknowledging that both research and curriculum rest on nothing more or less than belief is a first step, we believe, on the road to inquiry, professionalism, and professional unity. When research is conducted in open, functional language settings, the child as research and curricular informant offers this perspective a methodological self-correcting strategy.

Given recent trends in the study of language this position receives theoretical support from linguistics. Within the past ten years fundamental changes have occurred in linguistics. In the early days of linguistics, language was conceived of as an object and it was the job of the linguist to philosophize how it was that this 'object' worked. Such philosophizing produced theories of language that when applied to real language users in real language situations resulted in decisions that some utterances were "grammatical" and others "not grammatical."

Early psycholinguistic and sociolinguistic research of the more recent traditions of Goodman (1976), Emig (1971), and Halliday (1974), changed all that. Arguing that language does not exist in the abstract, but only in use, they developed a theory of language learning and use rooted in what real language users actually did. Herzfeld (1982) characterizes this change as one which moved the profession from a "theory-to-practice" view to a "theory-of-use" or "practical-theory" view.

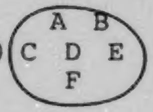
If language does not exist in the abstract, but only in use, then it follows that theories of language which can only explain a subset of language are not only inadequate, but no theory at all. An adequate theory of language or language learning must explain all language phenomena.

This linguistic focus on "practical-theory" further suggests that natural language environments, and potentially natural language environments like classrooms, are good research environments. Since the ultimate goal of basic educational research in language learning is for purposes of developing a theory of language instruction, settings where all of the contextual factors which might affect learning are allowed to transact ultimately provide the ideal milieu for theory development and test. So, from another direction--linguistics, the role of teacher and researcher coalesce, and additional support for a new era dawns, one in effect calling for a collaborative pedagogy.

Language Issues and Assumptions in Experimental and Ethnographic Research. There is much debate surrounding these methodological issues which we have sketched (Carey, 1980; Guba, 1978; Mishler, 1979). This volume is not immune to that debate. The study reported began by trying to meld what it felt was the best of an experimental and an ethnographic tradition. In the course of the study it became evident that these research traditions represented different world views. Assumptions underlying an experimental approach assume the world is made up of identifiable variables which interact to form a language event. A complex event, like language, can be broken down and each variable can be studied in isolation to find out how it really works. This position is positivistic, the assumption being that all and any phenomena are reducible to component parts. Figure 1 attempts to conceptualize this world view then applied to the area of reading.

Figure 1. Assumptions Underlying Reading from an Experimental World View.

(a) The parts of the event equal the event itself (EVENT = PARTS)

(b)  = Reading

(c) A+B+C+D+E+F = Reading
A+B+C+D+E+[F Controlled] = Reading
A+B+C+D+F+[E Controlled] = Reading
Etc.

Ethnography embodies an alternate world view. There are no such things as 'variables.' Rather, the things experimentalists call 'variables', in an instance of language, transact to form a new phenomenon, the subcomponents of which are not reducible. To 'control' a component is to distort the transactive relationships which occur, and in the process alter the event so that it is not a real instance of what one thought one was studying. In short, 'to manipulate' is to distort the linguistic sign formed by a complex of cues and with this distortion, alter the cognitive and linguistic processing which normally occurs. This position is semiotic (Eco, 1976). The assumption underlying this view supports a theory-of-use position on language and language learning. Figure 2 attempts to conceptualize this world view when applied to the area of reading.

Figure 2. Assumptions Underlying Reading from
an Ethnographic World View.

(a) The parts of the event do not equal the
event itself (EVENT ≠ PARTS)

(b) $\boxed{\text{ABCDEF}}$ = Reading

(c) A≬B≬C≬D≬E≬F = Reading; where ≬ means in transaction with

(d) Either: A≬B≬C≬D≬E but [F Controlled] ≠ Reading
A≬B≬C≬D≬F but [E Controlled] ≠ Reading
Etc.

Key: ≠ does not equal
≬ in transaction with

To say we started as positivistic and ended up as semioticians is too dramatic. Given our research history and training the changes were often more ephemeral than that. One of the graduate students at our institution probably best captured our dilemma when he said, "By evening, after looking at this data, I'm a true semiotician. The problem is each morning I wake up I'm a positivist again!"

We found and find it hard to abandon such terms as 'variable', 'factor' and other such positivistic terminology. Many of our initial analyses were positivistic, a position which over time we came to outgrow. Often it took us what in retrospect seems an inordinate amount of time to abandon a related term or concept which was theoretically inconsistent with the position we had come to hold. All these and more (some which we presently are unaware of) are embedded in this report.

Even the writing up of our findings has caused us problems. The tradition is second-person, distant. An ethnographic perspective assumes all aspects of the context of situation, including the researcher, are an integral part of the process and hence an integral part of the transactions and phenomena one is attempting to explain. An experimental approach assumes that through certain controls, the effect of the researcher is equally distributed and hence ignorable. Since the researcher has been removed conceptually, the researcher can write as if he or she did not exist. An ethnographic approach assumes the researcher's presence will be part of that process and that such involvement must be recorded and studied. To write in second-person, abstract, is to be theoretically inconsistent with the position held.

Entwined with this issue is the issue of generalizability. From a semiotic perspective experimental research data is not generalizable because it deals with a distorted sign. How can studying non-language instances, where key aspects of the process (which we haven't even identified yet) are not allowed to transact, help us understand real language? From an experimental perspective, how does one generalize from naturalistic data?

Some of these questions we have avoided by focusing on process rather than product. Our approach has been to look for patterns and co-occurring patterns within and across language events. To the extent that there are universal cognitive processes involved in any instance of language use or learning such an approach seems tenable.

In its specific detail, however, we will argue that language is context dependent. To the extent that each language event is unique, what must be searched for is suspected and unsuspected harmonies or orchestrations of cue complexes constituting the linguistic event. From the perspective of practical theory, all instances of language, if they have occurred, are real and must be explained by one's evolving theory. No data can be ignored. There is no convenient methodological dumping ground like "error variance" in the experimental approach. A good theory of language learning has to explain all instances of language learning, not just those it finds convenient. From a semiotic perspective being able to explain the observed behaviors of language users during a language event provides a sounder basis on which to generate theory (generalize), than does ignoring as much of the event as one explains, or explaining a subset of behaviors one finds convenient, while simultaneously acknowledging observed "error" or exceptions even within this set.

This notion of error is an important one. We have found, for example, that it is the unexpected--the unpredicted--which merits and commands attention. It is from the unexpected that we have found we can and do learn the most about our current assumptions and their shortcomings.

While this discussion of the issues and our evolving resolutions are not totally adequate, they represent our thinking at this time, and together constitute the methodological context in which this report is written and should be read.

1.2 THE CONCEPTUAL CONTEXT OF THIS RESEARCH PROGRAM

Recently, a National Institute of Education publication appeared announcing the availability of new research monies in reading and language. In the area of early literacy the federal government wished to support research in, and we quote:

> How we move from simpler forms of reading, such as letter recognition and sounding out words, to a fuller understanding of written materials. (NIE, undated, but still being distributed in November of 1982).

While this statement seems to pose a rather straight-forward agenda, it makes a series of assumptions about language and language learning. It accepts, for the study of literacy, the conceptual viability of such notions as 'developmental stages', 'readiness', 'emergent reading', and others which rest on these assumptions. Even further, it endorses, in part at least, a behavioral model of language learning and a subskills approach to language teaching. Implicit in the statement is a belief that written language is a second-order abstraction which is built on an oral language base.

Since these notions and the assumptions underlying them have been proposed as useful constructs for understanding literacy, by historical fiat they constitute part of the conceptual context of this study. At best, NIE's request for research reflects only a selected portion of current thinking in the field of literacy and literacy learning; and, in so doing, raises many issues. Although this is not the forum for a full discussion, some understanding of these issues and their conceptual alternatives is needed.

The function of this section is to provide a conceptual frame within which our program of literacy and literacy learning research might be understood. We briefly identify issues historically by foregrounding and backgrounding alternative theoretical positions. Other sections of this volume elaborate and extend this intellectual heritage.

Developmental Psycholinguistics and Oral Language Learning. In the '60s important changes arose in our understanding of oral language development in children (see Lindfors, 1980, for an excellent review). There was a virtual revolution in this field which had been dominated by behavioral models. Until this period most of the studies on child language were predominantly concerned with lexicon, the number and variety of words used by a child. These words were classified according to adult language categories (nouns, verbs, adjectives, and so on), and the correlation between increases in vocabulary with age, sex, race, socioeconomic class, and school achievement, studied.

No collection of pronunciations we might recognize as words--no matter how vast--in itself constitutes a language. Without precise rules for combining and interpreting those elements there is no language. The first critical point at which associationistic models of learning were discovered to fail was in accounting for the development of syntactic rules. Neither imitation nor selective reinforcement, the two key elements of associationistic learning, could account for the child's learning of syntax.

Although it is beyond the scope of this discussion to provide a detailed analysis of the advances made by developmental psycholinguistics, it is necessary to present a brief overview indicating some crucial points. The traditional associationistic model of language acquisition is simple: children learn through imprinting and imitation (see Skinner, 1950, 1978). The environment which surrounds the child is organized to reinforce certain responses and eliminate others. In oral language, when the child produces a sound (like dádá) which the parent likes to hear, the parent smiles and reinforces the child. In this way the environment selects, from the vast amount of sounds leaving the child's mouth, only those combinations corresponding to the mother tongue. These sounds must acquire meaning to be converted effectively into words.

In this model the problem is resolved by repeated exposure. The adult presents an object and pronounces a word which is the name of that object. Because language is arbitrary--the words we use to label an object have no direct tie to that object's meaning other than by virtue of the fact that a group of us agreed to call something by this term--language learning is seen as being an abstract form of learning. Since language is abstract and arbitrary, learning is difficult and tricky; essentially unnatural. By reiterated associations of the sound and the object, these problems of unnaturalness are overcome with the result being that in the end an associative bond is formed. In this model the language learner is seen as passive, being shaped by his or her environment. Language is transmitted directly and does not require active mediation. Words are seen as the key unit of language.

Work in developmental psycholinguistics greatly altered this view. Instead of children who are passively awaiting external reinforcement, children came to be seen as actively attempting to understand the nature of the language spoken around them. In attempting to understand language, language learners came to be viewed as active predictors and hypothesis testers (see Chomsky, 1965). During this period children were said "to form their own grammar" (see Brown, 1973). This was not just a deformed copy of the adult model, but their own creation based on the rules of language use they had intuited as members of their language communities.

In reality children did not, nor do not, "develop their own grammar." While child language is different from adult language, it is based on the same rules. We will show that the interpretive rules of language use--even written language use--are apparently much more available to language users than previously thought and are acquired through social interaction at very early ages.

The regularizing of irregular verbs illustrates both the initial observation and our clarification. If the form is "I walked," "I talked," "I climbed," why not "I ated" (LaShell, age 6), "She rided" (Sally, age 5), and other such common patterns from child language. When children continually make similar decisions; that is, when a systematic pattern is discernible, to simply call it 'error' is to focus on surface structure form but not to look at the process or rules which undergird the construction. Since adults do not speak this way, language cannot be said to have been learned through imitation. Nonetheless the rules children are using (add 'ed' to verbs to sign past tense) are not a "new grammar," but very firmly rooted in rules of language use in the child's interpretive community. Irregular verbs are not regularized through selective reinforcement; they are regularized because children have been actively seeking the patterns that occur in the language around them. In the course of using language to get things done, children have formulated hypotheses about how the system works.

They are making predictions and testing these predictions in the heat of using language to get on with living. The belief underlying the original observation and our clarification is that all language behavior is organized and rule-governed; that is to say, reflective of psycholinguistic activity on the part of the language user.

Rather than the learner being seen as shaped by an environment-response bond, as in the behavioral view, the cognitive view of language learning sees the object to meaning bond as triadic. The language user is central. Objects are not signs until the language user perceives them as signs and infers their meaning. Meaning does not reside in the object, but in the language user. When this triadic bond is in place, a sign function has been established, and an instance of literacy is said to occur.

Throughout this volume when we say something 'signs meaning', what we mean is that such a sign function has been established. Figure 3 contrasts these differences in language learning theory in schematic form:

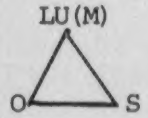
Figure 3. Language Learning: Behavioral and Cognitivist Views (Carey, 1982)

A BEHAVIORAL VIEW

O ——— R

KEY: O = Object
R = Response
LU = Language User (Invisible in this Model)

A COGNITIVE VIEW



KEY: O = Object
M = Meaning
LU = Language User
S = Sign

Over time, the active role of the language user and the openness of language as a sign system has altered the profession's view of words and word meaning. Some data we collected illustrate this point. Even vocabulary items which relate to concrete referents are mediated and not just learned by rote. A child's meaning for the word 'tree' ("a place to swing in my back yard" [Alison, age 5]) is different from a second grader's ("wood, shade" [Jason, age 7]) to say nothing of the American Historian's ("a major factor in the westward movement" [College Professor, age 42]). Though pronunciations of the word 'tree' are the same, meanings are quite different. Pronunciation, without meaning, does not constitute language. Language always involves an active interpreter. The difference, Labov says (1982), "between a parrot and a human saying, 'I'll meet you downtown,' is that the human is likely to show up."

Sociolinguistics and Language Learning. Because children grow up in a particular language or interpretive community, the patterns they discover about language inevitably shares much in common with the language around them. Some have mistakenly assumed that this phenomenon means that some of language is acquired through imitation and modeling (being directly available in the environment; ready-made to be picked up; hence, the term 'language acquisition'), while other elements are learned through rule formation and hypothesis testing (some more active process).

The problem with an eclectic position is that it accepts the viability of a behavioral model of language learning; that is, it assumes some of language, at least, does not involve active interpretation on the part of the language learner. Our own position is that none of language can be explained via an associationistic or behavioral model of learning. Language is not acquired, it is learned. We have found that upon examination any linguistic activity assumed by some to be 'rote' or 'imitative', represents action based on layers and layers of psycholinguistic activity. This cognitive activity is rooted in a set of abstract rules which the language user has formed and operates as an anticipatory schema (Neisser, 1976) with direct exploration. Language behavior is never random.

One example should suffice to illustrate this point. As part of this program of research, we and the research associates, graduate students, and teachers with whom we came in contact, conducted what we called 'child-as-informant curricular and research studies'. These studies involved selecting a setting and observing young children operating in that setting.

In this instance the parent-researcher reported observing the following activity in their 2-year old son, David: It was Sunday morning. The opening and closing of the screen door signed that the Sunday paper had been delivered. David grabbed the comic section, walked by his toy box and picked up a wooden, cylinder-shaped block. Hopping into his favorite chair, David propped his feet on the ottoman, placed the block--his "play cigar"--in the corner of his mouth, snapped the paper open, and with arms extended announced, "I'm going to read the funnies!"

A behavioral interpretation of this incident would be to say that David was 'imitating' or 'modeling' what it is he had seen his father do on previous Sunday mornings when the paper had arrived. This interpretation leaves unanswered the question of whether or not David's actions were deliberately meaningful. This is a most important question. It is at base the difference between a behavioral as opposed to a cognitivist view of language learning.

From a child-as-informant perspective, if David repeated these or similar actions across language settings we could infer that his behaviors were intentful and rule-governed; reflective of psycholinguistic and sociolinguistic activity. With only one instance we still must suspect these things. Clearly, for example, we might infer that David already, at age 2, sees reading as a form of social action. Given certain settings, looking at a sheet of newsprint is an acceptable form of social action. David also demonstrates by his actions that he sees newspapers as objects which sign an activity called 'reading'. We might suspect that David sees 'reading', then, as something one does from things like newspapers. In addition we might surmise that David understands this activity in relationship to his world. The newspaper is delivered so that this activity called 'reading' can occur. Reading is enjoyable. Funnies are part of the newspaper. Funnies are the things one reads first.

All of these inferences, we might suspect, are part of David's thinking and govern his actions making them predictable and non-random. To dismiss these behaviors by labeling them 'modeling' is to miss 'the learner' in the event, and the patterns in what it is that David already intuitively understands about the literacy process. From a process perspective, David may already have an anticipatory frame for newspapers which includes what one does with them, and why one does it. Newspapers and their arrival are objects which function as signs. David's interpretation of these signs are understandable via a study of his sociolinguistic and psycholinguistic activity and action. Since such anticipatory frames are a central part of the reading process (Smith, 1978; Goodman, 1967), they are much too important to go theoretically unnoticed.

It is important to understand that underlying these views are radically different conceptions of language, language learning, and the language learner. From a cognitivist view, language is an open sign system which in operation involves the active interpetation of the language user. From a behavioristic view, the language learner is passive, a receptacle, and irregularities in learning are not rule-governed, but random, created by inconsistencies in the delivery system.

Because of the model of language learning which is the theoretical referent for the terms 'modeling' and 'acquisition', we have dropped them from our vocabulary. We recommend others who see the language learner as active do likewise.

Current Oral Language Issues as Rooted in Language Learning Theory. Sometimes today rather than speak of 'modeling', researchers speak of 'scaffolding', a notion much akin to modeling in many respects (see Cazden, 1965, 1966, 1972, 1978). This concept originated from studies of adult-child interaction where it was found that adult-child speech interactions were different from adult-adult speech interaction patterns.

Typically what has been noted is that sentences were shorter, child responses were expanded and elaborated by the adult, and only deviations which resulted in loss of meaning corrected. Because 'meaning' is mentioned the fundamental learning issue is often lost or clouded. Essentially the notion underlying scaffolding is that the adult determines the language structures to be used by the child and that such structuring facilitates the child's picking up, or acquisition, of language. The conclusion that is often reached is that natural language settings are far from 'natural', thus supporting the viability of direct instructional models of language teaching and a behavioral model of learning (see Teale, 1982; and Bruner, 1982).

While it is true that child-adult conversations are structured differently than are adult-adult conversations, these differences are predictable and, like any instance of language use reflect the psycholinguistic and sociolinguistic processes involved in language use. Halliday (1980) argues that what participants do psycholinguistically is 'semantically track' each other; the result of which produces sociolinguistic shifts and moves on the part of the participants throughout the event. These shifts and moves alter the event and create potential signs which the participants read. In an adult-child conversation the shifts and moves which the adult makes in adjusting his or her language to the child--what Halliday calls 'tracking'--might be more simply viewed as 'the child as the conversational informant'; the shift and moves which the child makes to the adult, as 'the adult as conversational informant'.

The term 'scaffolding' references the environment and views adult-child interaction as the adult being in charge, simplifying, manipulating, or structuring the environment for learning. 'Scaffolding' as a term pulls attention away from process to the environment and hence suggests language learning to be the result of an environmental-response bond.

The term 'tracking' references the psycholinguistic and sociolinguistic processes or strategies engaged in by both language users in the event. Both child and adult are actively seen as structuring the event. Figure 4 illustrates these differences figuratively.

Figure 4. 'Scaffolding' and 'Tracking' as Rooted in Language Learning Theory.

Scaffolding: Adult as Language User ————→ Child as Language Learner

Manipulating the language learning environment for the learner

Tracking: Adult as Language User ←————→ Child as Language Learner

Shifts and moves made between equal partners as they together create a successful text in this context.

These semantic distinctions between 'scaffolding' and 'tracking' are significant. When a behavioral, as opposed to a cognitive perspective is taken, the danger lies in deducing that what children need is simplified language environments and that these are 'natural' for language learning. Instructionally this leads to setting up environments where all of the systems of language are not allowed to transact as they normally do (and as, in fact, they were doing in the studies from which 'scaffolding' as a concept evolved).

Written Language Learning: Examining Common Assumptions. When one moves from oral language learning to written language learning these issues do not dissolve, but rather become accented. From a socio-psycholinguistic perspective it seems ludicrous to assume that given a literate society young children, while actively attempting to make sense of their world, would selectively decide not to attend to print. Given everything we know about learners and our print oriented society, several researchers (Goodman & Goodman, 1979; Smith, 1980; Ferreiro & Teberosky, 1982; King & Rental, undated) have argued that a more viable theoretical position would be to assume that young children have attended to print prior to schooling and that formal literacy programs should build off of this knowledge.

Examining the Oral Language Supremacy Assumption. Part of the reason so few persons have studied literacy before schooling lies in the assumptions embedded in, and underlying what we have termed, 'the oral language supremacy assumption'. This assumption is that oral language must be in place before one adds yet another tier. By serializing the expressions of language, a subskills approach to language learning is advocated. Oral language bits must be in place before written language bits can be acquired.

The pervasiveness of these premises was readily apparent to us in conducting this program of research:

(1) More often than not, little was being done at the preschool and kindergarten level in the name of reading and writing;

(2) When something was being done, that something was usually letter name knowledge and letter-sound pattern drills;

(3) Oral language instructional activities of all kinds typically preceded reading and writing activities throughout the curriculum.

The assumption is made that, since oral language is a prerequisite to written language learning, then special emphasis should be placed on oral language in preschool and kindergarten programs. Many preschool teachers whom we approached thought our research inappropriate, often feeling obliged to inform us that their children didn't read or write yet. One preschool teacher took a look at the unconventional script her 3-year old children used to 'sign in' in her classroom (a procedure we developed to collect name writing data over time), to conclude she was right; children can't write at this age, we were unrealistic.

In interviewing the preschool and kindergarten teachers from our inner city study, we discovered that reading books and going to the library were seen by the teachers as activities which were enjoyable and broke up the day. While these are reasons for including these activities in a school day, they are not language reasons; the activities were not seen as part of the reading and writing curriculum. Teachers did not perceive them to be relevant when asked to delineate what things they did that facilitated children's growth in reading and writing. To dismiss this pattern of teacher behavior as an oversight is to ignore the theoretical assumptions which undergird their decision-making.

The assumption that if one does something in reading and writing, one must begin with letter and sound matching, is so pervasive that many otherwise excellent early childhood educators are not interested in highlighting reading and writing activities in the preschool. Often these are humanistic teachers who take a cognitive approach to teaching and learning in all other curricular areas. With "new" materials advocating a skills and drills approach to beginning reading and writing, their observations of what written language concepts the ever-popular Sesame Street teaches, and their past experience with formal literacy programs, these teachers believe that to stress literacy they must abandon their learning model. Many excellent early childhood educators refuse to do this. But by not being cognizant of theoretical alternatives, they permit their children to miss many significant and natural encounters with print.

Then, too, throughout the reading program, oral instructional activities typically precede reading and writing activities. Some teachers delay writing until the second half of first grade (Hill, 1980). Almost all introduce new words orally, have the children use them in oral sentences, and carry on extensive discussions before permitting the child to read. The assumption is that reading is not a language learning opportunity, all concepts must be in place orally before the reading process can work.

Even the language experience approach in which children and teachers construct their own reading materials based on the experiences they have together, assume an oral language to written language correspondence which buys into a serial notion about how the expression of language is learned. In these rooms, children rarely were given paper and pencil and permitted or encouraged to write their own messages. Failing to note the difference between an integrated language curriculum and a fused one--where reading and writing are juxtaposed because of an assumption of a shared language process, not just theoretically viewed as a convenient way to teach the same skills through parallel play—only clouds important conceptual issues which need clarification.

Examining the Assumption that Print is a Decontextualized Second-Order Language Abstraction. We also found that teachers can assume a cognitive position on how children learn and have learned oral language, yet, assume a behavioral position when it comes to how written language is learned. Often this, too, is the case because they are not familiar with theoretical options which are available. At other times this enigma is the result of the belief that written language is more abstract than oral language, being a 'second-order' language process.

The psycho-linguistic argument underlying these beliefs is that oral language is more contextualized than written language (Mattingly, 1972, 1979; Emig, 1971; Olson, 1977). The process of learning to handle written language is a process of learning to handle 'decontextualized' print.

In its expanded form the argument runs something like this: cognitively, in order for comprehension to occur the language user must assimilate what is being perceived into his or her existing framework. If the prerequisite concepts are not in place the learner is said not to be 'ready', or the material being taught too 'abstract'. Oral language situations provide more contextual cues which the language user can use to access assimilative schemas. Written language settings have few if any contextual cues and hence are more 'abstract'; more 'decontextualized'. Since contextual cues are not available, a different set of cues must operate in written language use. The trick in teaching children to read and write is to 'get them' to be dependent upon 'print cues' as opposed to 'contextual cues' which got them by in oral language.

Given its popularity in recent literature, this view obviously has a lot of appeal to members of the profession. Much of our data argue against this view. Although we will build an alternate theoretical base in the body of the report, an overview of our position is given here. From a socio-psycholinguistic perspective, reading and writing do not involve less concern for context than do speaking and listening. If particular content or process information cannot be assimilated, it can be said to be 'abstract', but this is as true of certain oral language activities and experiences as it is of written language. We will demonstrate that all language—both oral and written—signs its context.

From a socio-psycholinguistic perspective the on-going challenge in writing is learning how to sign an interpretive context so that readers might construct a successful text world. Rather than being a decontextualized process, context remains central. Language and language learning are contextually dependent activities for all language users. Context plays as much of a role in our first language response as our last language response. This is as true of our oral language responses as it is of our written language responses. Brandt (1983) conceptualizes the key issue in successful adult writing as transactions between and among contexts, involving orchestrating the context of situation, the context of the text world, and the context of the evolving surface text.

Examining Assumptions Underlying the Notion of 'Developmental Stages'. Maturationists hold that much of a child's cognitive development is explained biologically. The essential assumption underlying a maturational or biological notion of development is that children are like plants: as they get older and bigger, they are capable of doing things they were not previously capable of doing.

While clearly not the first maturationists, Montessori (1912) and later Havinghurst (1952) popularized the position by weaving biology and psychology into their theories of learning. Given the intellectual tenor of the time, Piaget (1969, 1970, 1973) understandably, too, began his cognitive explorations of children's thinking using biological lens, and equally not surprisingly, ended up posing a 'developmental stage' theory of cognitive development which wove biology and psychology into an interesting and appealing mix.

Essentially what Piaget did was pose children of various ages with a set of logical problem solving tasks. By observing the children and the thinking that led to their solutions, Piaget mapped out a set of cognitive processing strategies which children at certain ages were likely to exhibit. Before certain forms of thinking were possible, children had to have progressed through other forms, or stages, of thought. Piaget demonstrated that young children's thinking abilities were qualitatively different from that of older children, and that both of these patterns were different from the formal thought of most adults. Theoretically he introduced the notion of 'centrism' to explain why children were not as flexible thinkers as were their older and more logical peers.

Given this formidable history, it should surprise no one to find the notion of developmental stages well-rooted and deeply embedded in educational learning theory, including language learning theory. But, just as it has been discovered that the process of photosynthesis is as applicable to the young plant as the old plant, so, too, it should surprise no one that at a processing level the biological residue of an essentially cognitive position on learning would increasingly come under attack and question.

The work of Margaret Donaldson and her colleagues (1978), for example, seriously questioned Piaget's notion of 'centrism' by demonstrating that when tasks were constructed that dealt with the experiences of the child, the same child who appeared not to be able to conserve, suddenly could and did. Similarly, when the rules of language use in experimental conditions were explained to children (so that they understood that 'the same question' was 'the same question' and not an indirect speech act, as it typically is when the same question is repeated by an adult to a child), significant numbers of children were suddenly able to engage in cognitive operations which led them to the logical solutions of Piagetian tasks.

Conceptually, Piaget's misjudgment, we now understand, was in assuming language and thought were separated. For Piaget, language reflected thought, but did not affect it. Since language was a fringe benefit of thought, but not an integral part of thinking, what and how one used language (even with children in research settings), was of no cognitive consequence. Language, for Piaget, was an output of thought, not a generator of the basic process itself.

This is not to criticize the contributions of Piagetians. Piagetian research is theoretically based having its theory of learning explicitly stated. Further, rather than focus on product, what Piaget attempted to do was look at process and the cognitive operations involved. These are significant contributions which characterize our own work.

It is to suggest, however, that Piaget's approach to research fails to check certain assumptions, about language, cognition, and the relationship which exists between the two, which we now see as central to understanding literacy. Vygotsky (1962, 1978) helped us see that thought and language transact and together become more than their individual and independent selves.

Assimilation and accommodation are the cognitive universals which Piaget identified. His developmental stage work evolves from a product analysis of children's thinking on tasks having little or nothing to do with the kinds of settings, and thinking about objects, with which children were familiar. It is important to keep this distinction in mind; one set of labels references universal cognitive processes; the other set, an analysis of particular patterns given particular conditions. We accept the notion that children bring assimilative schema to language settings which inevitably get altered as a function of that experience (no two language contexts are ever exactly alike and hence processing cannot be formulaic or simply involve rote use of assimilative schema), and reject the notion of developmental stages. Since our work bears much similarity to Piagetian research, some further explanation of our position seems warranted.

Built into the Piagetian tasks is a conception of how the process works and the key cognitive operations which are involved in that process. The assumption is that cognitive ability is a prime; a 'state' which transcends and affects any particular instance of thinking. Our research demonstrates that experience affects the kinds and quality of thinking children are capable of doing and thus illustrates that thinking ability, like language ability, is context dependent. Children are at different 'cognitive stages' given their familiarity with the context of situation. From a socio-psycholinguistic view, one should be able to demonstrate that adult thought in unfamiliar settings shares much in common with child thought in such situations. We would make this prediction if settings where experiential backgrounds were similar could be found. By the same token some literacy settings--like computer literacy--might allow some of today's children to have a cognitively strategic advantage over adults. By studying the child and the adult's psycholinguistic flexibility in these settings, needed insight into this issue may be possible.

Piaget began with a set of assumptions about the cognitive operations involved in formal thought and designed a set of artificial tasks which he felt would more effectively test his theory. He made no attempt to watch language users solve whole world problems of personal importance. While his approach may appear logical from a methodological perspective, psycholinguistically it is not without its own set of faulty premises.

A research example might clarify this point. In written language there are essentially a lot of things to attend to. A partial list might include how oral language maps onto written language, how phonemes and graphemes correspond, how language is written and formatted, how language structure varies by context, how one uses language to mean, how language functions across various contexts, how perceptual information is coded into language, etc. If tasks are designed to explore any one of these aspects, rule-governed behaviors can be identified. The problem is, of course, that one would never know whether or not the thing identified really operated that way or had much, if anything, to do with the evolution of literacy. It may be that when all of the other things available and to be attended to in language were operating, the particular pattern identified by the task pales to insignificance.

As a particular instance, we found that young children when engaging in reading demonstrate graphemic awareness. This language system, however, never operates independent of the other systems of language and alternate communication systems which are available in the setting. When all systems are permitted to operate as they do in natural language settings, the amount of graphemic information needed is significantly less than that necessary if this system is presented in isolation. Then, too, the nature of the linguistic sign has been changed. In the experimental setting one has at best a partial sign; at worse, a distorted sign. Since the rules of language use have changed, even when functional literacy tasks are selected for experimental purposes, the cue complexes normally functioning as signs are changed.

All this is to say that both a theory of learning and a theory of language have methodological implications and in transaction lead us to believe that not all research settings are of equal worth. Both what is believed about learning and what is believed about language, are important in conducting and assessing literacy research.

Examining the Assumptions Underlying 'Readiness'. The notion of 'readiness' (see Gesell, 1925, 1940; Hilgard & Bower, 1975; Biggs, 1982) is closely related to the notion of 'developmental stages'. Both evolve from a maturational, or bio-psychological, view of learning. Both suffer from premises about the nature of language and thought. Like developmental stages, 'readiness' is a concept which cognitivists and behaviorists alike have supported. Like developmental stages it has both a content and process dimension.

From a content perspective one must have certain information before other information can be meaningfully learned. From a process perspective one must be performing a certain way cognitively before one can expect new forms of cognitive activity. What both content and process readiness positions share is a common belief that language is a perfectable absolute. There is one and only one true meaning to be obtained from the author; there is one and only one careful route to his meaning. Language is a closed system. The processing order to interpretation is fixed.

No concept has been more difficult for the profession to abandon than is the notion of language as a perfectable absolute. Despite tomes of research showing that language variation, including variation in comprehension and comprehending are expected events, the notion persists. Since what one brings to the process affects what one gets out of the process as well as the assimilative linkages one can make, variety and openness is the expectation. Implicit in the notion of 'readiness' is a concern with outcome. If one expects everyone to be the same--arrive at the same meaning, take the same careful path to reconstruct that meaning--then and only then, is readiness a language learning issue.

Our model of language assumes sociological and psychological variation. It assumes that the same surface experience for two different language users will result in two different events and two different experiences. Our data leads us to believe that language users attend to that which they are personally ready for and cognitively able to attend. The 'same' experience means different things to language users on different occasions. If one can accept language variation and with it variation in what was learned, one can appreciate a language learner's current achievements and language experiences for what they currently are, not what they might be.

The criteria we hold for what makes literacy experience good for us, cannot be used to judge the value of a literacy experience for another. This must be done by the language learner on his or her own terms. Children, like us, get out of an experience what they are personally ready for. And this is good enough. One does not have to look at every mountain in the Rockies to appreciate their majesty and grandeur. In literacy, whetting the appetite is better than satiating it. If you explore every nook and cranny of the Rockies, why ever the need to go back? It is essentially our mistrust of the child as a learner, and our misunderstanding of language as an open, sign system which has made readiness the issue, the excuse, and the theoretical subterfuge it often is.

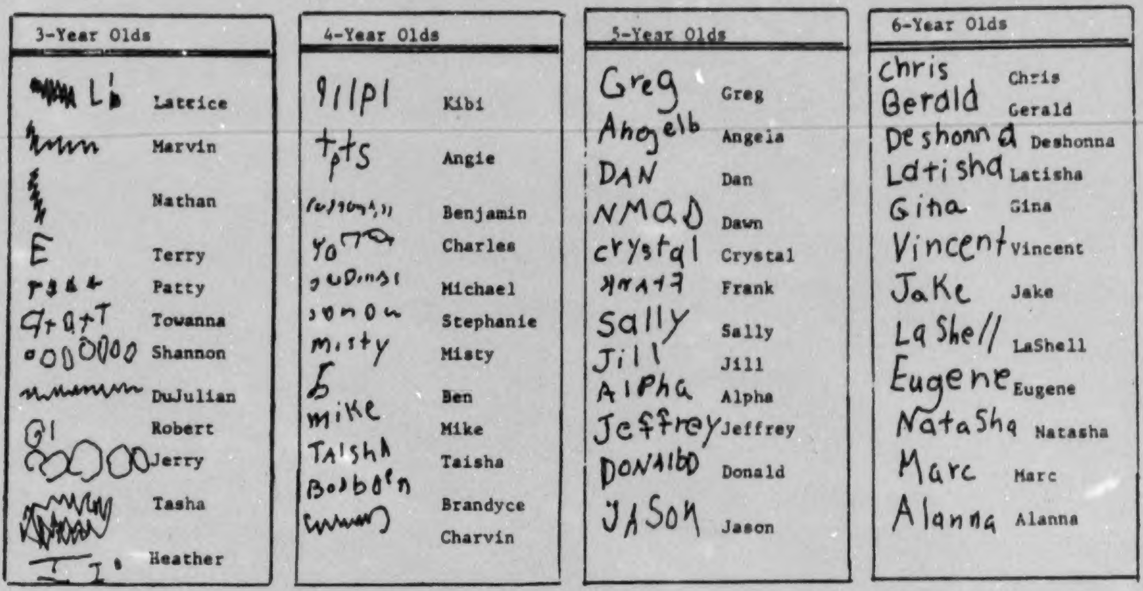
A Passing Word on 'Emergent Reading'. It must be noted in passing that the term 'emergent reading', currently growing in popularity among many researchers studying the evolution of literacy (see Clay, 1972, 1975, 1982; Holdaway, 1979; Sulzby, 1981; Doake, 1979), embodies all of the assumptions we have discussed for the notions of readiness and developmental stages. For this reason no extended discussion of the term is offered. It, however, like the terms 'beginning reading' and 'beginning writing' assumes the proficient process to be psycholinguistically different from the process young children engage in. Implicitly, the notion of 'emergent reading' buys into a position which assumes there are no cognitive universals in language processing. The patterns described are based on changes in the surface text created during reading and writing. We find no compelling evidence that these changes are a function of differing psycholinguistic and sociolinguistic processes.

Some Concluding Thoughts. Unless we examine the beliefs and assumptions underlying our terms it is difficult to insure vulnerability of our beliefs in our research and teaching. For these and other reasons we believe the notions of 'developmental stages', 'readiness', and more lately, 'emergent reading' need examination and reexamination by the profession.

We are, of course, not the only ones to question the conceptual usefulness of many of these terms (King, 1982; Goodman, 1982). Graves (1982), for example, is very fond of saying that he was struck by the idiosyncratic nature of the writing process. Rather than speak of developmental stages, he wishes to speak of 'sequences'.

While we believe Graves may have come to the same conclusion that we did—namely, that the assumptions underlying the notion of developmental stages need to be questioned—this does not mean we agree with his current resolutions. While one can clearly see that some pattern exists in the child's name writing ability from ages 3 to 6, for example (see Figure 5), to focus on these 'sequences' is to focus on form and not on the cognitive processes by which those forms came to be.

Figure 5. Name Writing Across Ages.


3-Year Olds
Latrice
Marvin
Nathan
Terry
Patty
Towanna
Shannon
DuJulian
Robert
Jerry
Tasha
Heather
4-Year Olds
Kibi
Angie
Benjamin
Charles
Michael
Stephanie
Misty
Ben
Mike
Taisha
Brandyce
Charvin
5-Year Olds
Greg
Angela
Dan
Dawn
Crystal
Frank
Sally
Jill
Alpha
Jeffrey
Donald
Jason
6-Year Olds
Chris
Gerald
Deshonna
Latisha
Gina
Vincent
Jake
LaShell
Eugene
Natasha
Marc
Alanna

To say writing is idiosyncratic is to suggest there are no discernible cognitive universals in the processes involved in language use and learning. We have no evidence that the kinds of decisions which children make in the face of literacy are qualitatively different from the kinds of decisions which adults make. The process children engage in is not a pseudo form of the real process; it is that process.

Instructionally, the problem with all of these terms--'developmental stages', 'readiness', 'emergent reading'--is the same problem we have with the term 'scaffolding'. At its most demeaning level the argument runs: If 'little children' have 'little thoughts' and attend to 'easy cues' in written language, then structured environments need to be designed which recognize these differences and facilitate literacy learning. In more sophisticated surface structure form, the instructional assumption runs: Complex processes, like written language and written language learning, must be simplified in order to be learned.

This position, in whatever form, inevitably leads to distorting the linguistic context and, if transactionalists are right, the linguistic sign. Further, the position fails to explore, acknowledge, or appreciate what the young child has learned in the messy on-goings of written language use prior to formal instruction.

We went into this program of research assuming the young child had much to teach us and the profession about written language and the written language learning process. Fundamentally we believed the profession was better served by an examination of the basic assumptions underlying a request for studies which called for an examination of

". . . How we move from simpler forms of reading, such as letter recognition and sounding out words, to a fuller understanding of written materials" (NIE, undated), than it would have been if we conducted research which embedded these assumptions in the design.

As is evident we do not avoid taking a stand on what we believe about written language and written language learning. By putting our beliefs and assumptions up front, and by contrasting them to alternative theoretical positions available, it behooves us and the profession to critically examine these beliefs, not only philosophically, but empirically. The description which follows represents our attempt to lay out a program of research where such conceptual alternatives might be freely explored and examined.

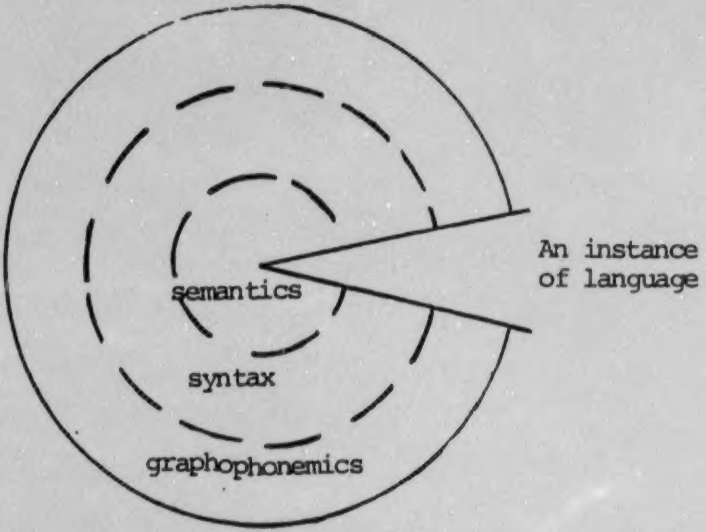
1.3 GENERAL CHARACTERISTICS OF THIS RESEARCH PROGRAM

Because of the methodological and conceptual contexts within which this study took place a research design was needed which allowed us to explore these issues and at the same time put our preferred theoretical explanations to the test. Conceptual positions which influenced the design of this program of research are discussed below. For each position, explanations of initial working hypotheses are given as well as how we designed the study to test these beliefs. The final section of this volume will readdress each of these positions sketching our current thinking as a result of this program of research.

1.3.1 THE SYSTEMS OF LANGUAGE

If linguistics and sociolinguists were right, no system of language could be studied in isolation of the other systems of language. Figure 6 presents our conceptualization of language when we began this program of research. This model conceives of language as made up of three systems of language: semantics (meaning), syntax (grammar), and graphophonemics (letter-sound). Language is conceived of as a sphere with meaning or semantics being the core. In written language this meaning is expressed in lexicogrammatical arrays; hence, sheathing this meaning core is the syntactic system and the graphophonemic system of language. We assumed the focus of language in use was meaning (semantics) and that

Figure 6. Whole Language Model (Harste & Burke, 1977)



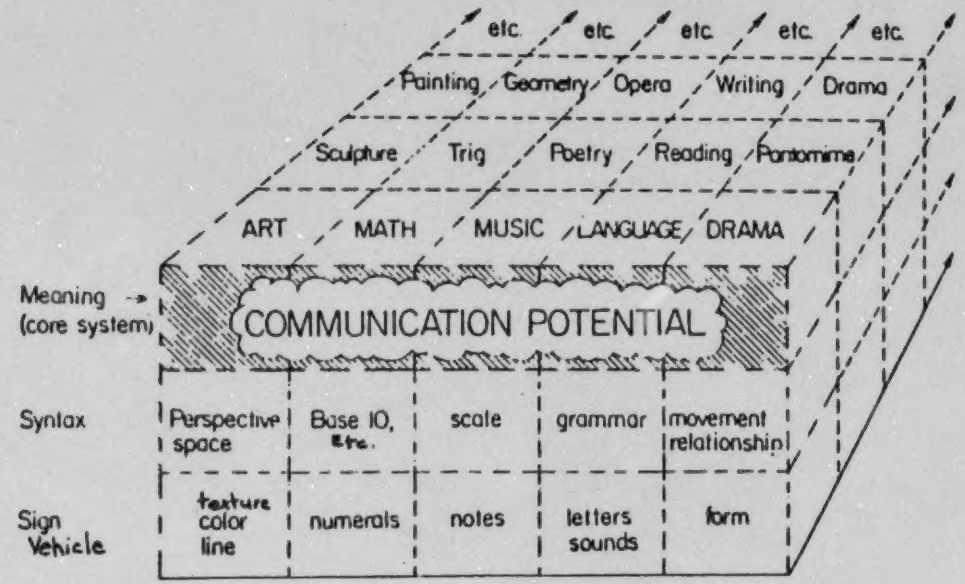
to operate, these outer systems must be transparent. If they become opaque, that is, if the language user focused his or her attention on the outer systems, language did not work. The dotted lines in this model are meant to suggest that all systems are open and do not operate independent of each other. It is the openness of these systems which forms new subsystems of language like the morphemic system (orthographic patterns which sign meaning), story grammar (syntax of semantic system; i.e., the order of semantic chunks in narratives), and the like. The wedge in the model is meant to suggest that any instance of language contains all three systems when the focus of language is on meaning (see the selected writings of K. Goodmann in Gollasch, 1982a, 1982b).

This model meant for research purposes that if we wanted to study what children knew about letter-sound relationships prior to coming to school, and we did, such a micro-analysis must be done from data collected in situations where all of the systems were available and operative. At the start of this study we suspected children accessed the semantic system of language and that it was this access which led to control of the graphophonemic and syntactic systems. If such a belief were not tenable, that is, if control of the graphophonemic system were indeed prerequisite to access of the reading or writing processes, the child's behavior would force us to abandon our initial beliefs.

1.3.2 LANGUAGE IN A SYSTEM OF KNOWING

We believed that in order to address language, we had to also address the relationship between language and thought more broadly. Alternate communication systems represent 'alternate literacies' which transact to support and enrich any specific literacy (like written language literacy). Conceptually, Figure 7 illustrates these notions by suggesting that the sum of what we as individuals or as a society know across alternate communication systems constitutes a 'communication potential' of which language is but one system. Figure 7 suggests that what ties the humanities is a common semantic or meaning system. Figure 7

Figure 7. Communication Potential Model


etc.
etc.
etc.
etc.
etc.
Painting
Geometry
Opera
Writing
Drama
Sculpture
Trig
Poetry
Reading
Pantomime
ART
MATH
MUSIC
LANGUAGE
DRAMA
Meaning (core system)
COMMUNICATION POTENTIAL
Syntax
Perspective space
Base 10, Etc.
scale
grammar
movement relationship
Sign Vehicle
texture color line
numerals
notes
letters sounds
form

is not meant to suggest that all of which is known is equally accessible to a particular communication system, but rather than the sum of what is known across communication systems constitutes a meaning potential. By this view, society, and the school curricula which that society creates to further its ends, ought to be concerned with expanding communication potential rather than systematically shutting off certain forms of expression through over-emphasizing some and neglecting other of the humanities (see Eisner, 1982).

We suspected, when we went into this study, that strong systems for the child (like art) could support weaker systems (like written language). We therefore wanted natural settings where alternative communication systems were an available part of the event. If such communication systems were not used by the language learner, or when available, not facilitative, but rather detracted from successful reading and writing, such data would force us to abandon our initial model and the beliefs which it entailed.

1.3.3 READING AND WRITING IN A SYSTEM OF LANGUAGE

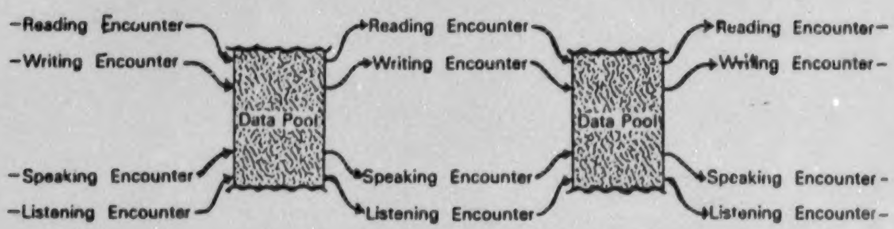
Carolyn L. Burke has attempted to capture some of the essential notions of our thinking underlying the relationships of reading and writing in a system of language in a model she entitled The Linguistic Data Pool (Harste, Burke, & Woodward, 1981). The central notions which she attempts to portray in Figure 8 are:

(1) What language users learn from a language encounter feeds a common pool of linguistic data which can be drawn upon in a subsequent language encounter;

(2) Oral language encounters provide data for written language encounters and vice versa;

(3) Growth in a given expression of language must be seen as a multi-lingual event; in reading for example, hearing a set of directions read, encountering written language with others, listening to a book, talking about a newspaper article, or attempting to write your own story, all support growth and development in literacy.

Figure 8. The Linguistic Data Pool



-Reading Encounter
-Writing Encounter
-Speaking Encounter
-Listening Encounter
Data Pool
Reading Encounter
Writing Encounter
Speaking Encounter
Listening Encounter
Data Pool
Reading Encounter-
Writing Encounter-
Speaking Encounter-
Listening Encounter-

While she is not the only one to conceptualize language in this way (Moffett, 1968; Smith, 1980; King & Rental, undated), the importance of this conceptualization is that it poses a parallel development of the language arts. As such it seriously challenges existing notions relative to the supremacy of oral language in the development of written language (typically, listening is assumed to precede speaking, speaking to precede reading, reading to precede writing).

Oral language primary notions currently undergird most formal language programs in this country. The model in Figure 8 is not meant to suggest that all of the expressions of language are the same, only that language shares much in common across expressions. This being the case, one strategy which initiate as well as seasoned language users can and do use, is building on available strengths they have in other expressions.

This constraint meant that we wanted a variety of situations where alternate expressions of language were involved which might support reading and writing activities and in which we might examine the kinds of psychological processes which these contexts provided. If there were no psycholinguistic or sociolinguistic processing advantages across settings which allowed a multitude of language modes as opposed to settings which focused on a single mode, such data would be taken as not lending credence to this working hypothesis.

1.3.4 COMMON LANGUAGE SETTINGS

Because we suspected that reading, writing, and reasoning are not monolithic skills (that is, we suspected a child's reading abilities, writing abilities, and thinking abilities vary as a function of experience), we wanted a series of common settings which permitted a variety of entry and exit points for language users of varying backgrounds.

For purposes of our initial studies, the series of settings we elected to study our informants in were: (1)reading print common to their environment; (2) writing their name and anything else they wished to write; (3) drawing a picture of themselves and signing their name; (4) dictating a language experience story and reading and rereading it; (5) reading a book; (6) writing and reading a story; and (7) writing and reading a personal letter.

While all children in our society might have some experience with these contexts of literacy, we assumed background experience would vary. Assuming that reading and writing are experiences in their own right, we also wanted to see each child perform in similar writing and reading settings on a number of occasions. No criterion level of acceptable performance was set as our interest was in seeing what strategies children used in solving problems which involved the use of written language. While which setting to select was a major issue, it was decided that any setting which permitted open-ended, whole language usage was acceptable. We did not then, nor do we now, believe the settings we selected to be the ideal set of situations in which to observe young children in literacy.

A bigger issue revolved around whether or not these settings would be perceived as functional to the child. Although each setting involved reading and writing, whether the child would perceive reading and writing as a self-selected functional vehicle to solve that problem or whether they would simply engage in reading and writing activities to please us was a critical concern. To partially attempt to solve this problem we built into several of the settings what we perceived as representing a more functional need for the use written language. In one setting, for example, the child received a letter from a research assistant whom he or she had gotten to know. On the day which the research assistant was absent, the child received a letter from him or her and was asked to read this letter and respond back in writing.

1.3.5 THE CHILD AS INFORMANT

Since our interest in this program of research was in discovering what construction processes were involved in literacy and literacy learning, the role we as researchers played during data collection and analysis was an issue of conceptual and methodological importance. The position we took was that our role should be one which permitted children to be our linguistic informants. We did not wish to push the child through our questioning into a state of cognitive dissonance, a procedure which would necessitate our taking ownership of the process away from the child. We were, rather, interested in what problems the child might perceive and what strategies he or she would use to circumvent or solve these problems. This meant a low-keyed role, taking our cues from the language user during data collection. All questions which the children had, and all problems which they identified, were turned back to them to solve. Often this meant that assurance must be given so that children would continue their involvement in the literacy setting. The role we selected, then, was one of support rather than intervention. We attempted to maintain this role across all data collection settings.

In retrospect this decision was at best a compromise. In natural language settings outside of school and research setting, children do interact and discuss things with adults and others who share a literacy experience. Such interactions are not outside the process, but an integral part of the event. While such interactions do affect the event and even change its direction, this too is natural.

From watching our behavior on videotape, we can now say our noninvolvement affected the event as much as, but in different ways than, did our involvement. While we now accept this as true, we believe, over the long haul, our policy of allowing the child to follow his or her own lead, rather than ours, was a good one. While children didn't always address the issue we thought most compelling to address from our perspective, what they did address proved more interesting and more insightful.

We also believed a position of support rather than intervention within the course of the literacy event would allow for more consistent data to be collected and facilitate generalizing our findings. Over time, however, we have begun to reconceive this issue too. What consistency in a research setting allows is consistency in data. When process and product literacy analyses are done, such consistency only misguidedly appears important. Without variation in research settings within and across language users, one can never be sure that the patterns one sees are a true part of the process, or an artifact of the research task, setting, or research procedures used. Even such things, we now would argue, as how young children handle cohesion, are best studied in individual settings, as the ability to write cohesive texts is not a monolithic skill but a function of the task, setting, experience of the language user, and other transactions in language use. Built into a study of cohesion in children's stories, for example, are aspects which assure that any conclusions reached are extremely limited and not generalizable to the process one is supposedly studying in a broader context.

When research is designed to study the processes involved in literacy and literacy learning, a variety of contrastive settings are one way to insure that any processes identified are indeed involved in, and applicable to, literacy and literacy learning more generally. It is only under such conditions that we can be comfortable that the patterns or configurations we identified are indeed real and not a function of a particular task or other constraint operating in the setting. Nor does such a procedure diminish the value of any particular set of data. If a particular constraint is operating in a particular way, such patterns are in themselves important to understand. Without the study of this phenomenon in contrastive settings, however, such configurations cannot be identified. Equally important, from this perspective, the original report, based on one consistent set of data, does not increase its generalizability, but rather, because it represents a half-truth, decreases it.

No pattern we discuss in the report which follows occurred in one and only one setting. In fact, it was because of the constraints we saw operating in our original videotape data that follow-up studies were conducted to assure ourselves that the patterns we had identified were re-occurring patterns in literacy and not artifacts of the particular research contexts we had created. For each of the perspectives we take in the main body of the report, how this phenomenon manifests itself across language settings will be discussed.

Our position that the child should be the research informant also had implications for data analysis. Rather than examine any data with a preconceived or existing analytic system, our first step was to watch all videotapes and note things of interest and patterns in the data which we saw as evolving. This does not mean that all categories we developed were unique only to us, rather it means that some of the patterns we saw were patterns other researchers had also observed. In these instances their taxonomic categories were used. Various members of the research team were assigned the task of watching the videotapes and studying our other collections of data for purposes of identifying patterns which they thought interesting and important. Once an initial set of categories evolved from the data, the entire research team rewatched all tapes for purposes of generating new categories, as well as having patterns already identified clarified.

When taxonomies were used for coding data, categories were developed and enough examples of the phenomena identified so that coders trained on the instrument could do so with an interrater reliability of .80 or better. Until such reliability was established, the procedures of adding examples to categories was continued. In retrospect a study of the research team's interactions during these data analysis and coding sessions would have proved very interesting and meritorious of a study in its own right, as we are convinced research serves its own informant role. In this sense, the taxonomies we developed for analyzing data were seen as heuristic devices to explore both our and our informant's thinking. There is no attempt in this report to explore all of the analyses we performed on various portions of the data we collected over the course of this research program. Our decision in what to report was to select those patterns and analyses which we believed proved particularly valuable for extending current notions of literacy and literacy learning.

At this point it seems appropriate to say that preestablished factors which supposedly affect literacy, such as socioeconomic status, which we could not see as a pattern in our data, were not studied. To correlate these factors against patterns identified by other criteria, is to take an essentially antitheoretical stance. The reader is referred back to Figure 5. Anyone being able to identify responses by the socioeconomic status of these children's parents, or on the basis of the race of the informant, is asked to contact us immediately as we have been unable to identify any reoccurring processing patterns which fall out along these factors. The model of literacy we propose, therefore, does not include these as useful constructs for the study of literacy and literacy learning. Unless such constructs have a viable base in theory, one must seriously ask why hair color, shoe size, or other theoretically unrelated concepts are not also studied. To the extent that socioeconomic status, race and sex are viable constructs for the study of literacy in schooling, but not before schooling, the key theoretical variables are not these, but other more significant attitudes and interaction patterns. To focus on these factors diverts, rather than illuminates.

Once a pattern had been identified in the data, existing literature was reviewed to see if others had observed this phenomenon. Whenever possible existing terms from sociolinguistics, psycholinguistics, semiotics, linguistics and related fields were used to label the pattern identified. If no such term was available, or if the use of a particular term did more to confuse than clarify, a new term was created. The origin of all such terms and their definitions is referenced in the body of the report which follows.

1.3.6 STUDIES CONSTITUTING THIS PROGRAM OF RESEARCH

Based on a study of early readers in kindergarten (Woodward, 1977) and observations of preschool and first grade classrooms (Harste & Burke, 1977), we began this program of research assuming that what the young child knew about reading and writing prior to first grade far exceeded what teachers and beginning reading and writing programs assumed. Now after six years of research and involvement in a wide variety of study, we realize we were not optimistic enough. Children know much more than any of us have ever dared to imagine.

In the summer of 1977 we received funding in the form of a Proffit Research Grant to study a random sample of twenty 3, 4, 5, and 6-year old children in Bloomington, Indiana. These children represent a sample of middle to upper-class white children. The purpose of this study was to identify what literacy and literacy learning looked like under, what was considered, given the literature, ideal conditions. Since then we have found that the circumstances of one's birth is a poor basis on which to predict the evolution of literacy. Given the fact that some upper class children have a very poor literacy learning environment, while some lower class children have very rich literacy learning environments, the best criterion to use is observation, as you hand the child: (1) a paper and pencil and allow them to write; and (2) a book and ask them to read.

Throughout the summer of 1977 we worked out task settings and administration as well as videotape data collection procedures. Our first study involved children in 4 research settings: (1) reading environmental print; (2) dictating a language experience story and reading and rereading it; (3) writing their name and anything else that they could write; and (4) drawing a self-portrait and writing their name. It was from these initial administration experiences that we decided all videotape data must be collected using two remote control cameras so as to reduce the numbers of individuals present at the data collection site and insure the collection of useable videotape data. This policy we have followed faithfully, with Virginia Woodward collecting video data in the homes of two children who moved during her longitudinal study. It was also during this period that we decided going to the children, rather than them coming to us, was an important part of data collection and would do much to reduce the anxiety that some of the children we studied in 1977 seemed to display. As a result of this decision, in subsequent videotape studies we not only met with the children prior to actually attempting to collect data, but physically transported two remote control camera units and a blender to the sites involved.

In the spring of 1978, Dr. Woodward received funding from the National Council of Teachers of English to follow the 3-year olds in our Bloomington study over a three year period collecting data on our tasks at regular 6-month intervals. Since our previous study assumed the 3-year olds we studied would look like the 4-year olds we studied if we could study them one year later, and so on, this study was specifically designed to check the viability of this assumption. In the course of this study, we came to understand, however, that with prior experience in a language setting, the literacy potentials of that setting drastically change for the language user.

In 1979 and 1980 we received funding from the National Institute of Education for a study of a random sample of 3, 4, 5, and 6-year old inner city, Black and White children coming from lower and middle socioeconomic circumstances, based on parental income, parental educational level and residential area. In this study, conducted in Indianapolis, Indiana, additional story and letter writing settings were added to the research design for purposes of exploring story writing across setting and the stability of certain patterns across a larger variety of contexts.

In each of these studies all data were videotaped for purposes of data analysis. This decision proved invaluable as it allowed us to go through our data on a number of occasions to look for patterns which we only later came to appreciate. All data in these studies were collected from children in individual settings spanning a 4-day period.

During the 1976-1981 period we and several of the graduate students at our institution conducted longitudinal case studies of selected children. These studies included Lynn Rhodes' study of her daughter, Kara, from ages 3-5; Marcia Baghban's study of her daughter, Gita, from ages 2-5; Mary Hill's study of Alison, Erica, and Megan from ages 3-6; and our study of Alison from ages 3-8. These children represent an upper-middle class sample of children coming from homes where literacy was a highly valued activity. Our decision to study this population as intently as we did was based on a belief that we had to have some notion of what was possible in the name of literacy learning before schooling if we were to be able to judge the quality of the experiences of children coming from alternate and supposedly less fortunate environs.

From these initial studies patterns were identified in our data. During the 1979-82 period we encouraged graduates, students, visiting scholars, and teachers whom we came in contact with to conduct their own child-as-informant research and curricular studies. These studies were conducted in homes, schools, clinics, and other settings to see if patterns and constructs identified were viable explanations of literacy and literacy learning. Because several of the graduate students and teachers we contacted were involved in special education programs and in multicultural settings in Texas, New Mexico, Hawaii, and Alaska, these follow-up studies also provided us a beginning opportunity to explore the viability of the constructs we had identified for discussing literacy among special populations.

It was from these follow-up studies that we reconfirmed the value of functional language settings for the collection of quality reading and writing data. Subsequent studies, when we attempted to set situations up, have involved extended time periods (e.g., pen pal writing to a group of first graders over the course of a semester); or when not set up, have involved either collecting all writing samples children naturally produce over the period of a week at home, or observation of other self-selected literacy events.

During the 1977-1982 period: (1) one member of our research team had the opportunity to work with a group of 3-year olds one morning each week for a 3-year period; (2) another member of our research team, because of her faculty position, had an opportunity to influence what happened curricularly at the University-sponsored preschool program; and (3) a third member directed a special summer reading and writing program for elementary aged children. Because of these opportunities, curricular studies were conducted to determine how the insights from our initial studies into literacy and literacy learning might translate into instructional practice. During this same time period, one of the current graduate students at our institution, Heidi Mills, was given the opportunity to set up, conduct, and work as a language arts coordinator and resource teacher in a preschool Head Start program in Michigan. The advances in literacy which occurred among this population over a three-year program will form the basis of her dissertation.

During this same period several other doctoral students at our institution picked up on key patterns and concepts which we identified in our study to explore the viability of these patterns and constructs at other ages and with other populations. Because their research inevitably proceeded faster than ours, they often ended up pushing our thinking as much as we theirs. Further, because we refer to these studies and consider them an integral part of this program of research, specially prepared reports on some of these studies which have not already been published in an alternate form are included in a final section of this volume.

2.0 THE YOUNG CHILD AS WRITER-READER: PATTERNS IN INTERDISCIPLINARY PERSPECTIVE

Goodman (1980) argues that the study of reading has become multidisciplinary rather than interdisciplinary. By making this distinction, Goodman calls attention to the fact that while a number of disciplines are involved in studying the reading process, each does so from its own perspective using its own methodologies. He calls for "bridging the gaps in reading" via interdisciplinary work which integrates and respects multiple perspectives.

While the focus of Goodman's remarks is on the status of reading research, his argument is equally applicable to recent work in writing. This section will identify and describe what we perceive to be key concepts in understanding literacy and literacy learning. Eight concepts are identified: organization, intentionality, generation, risk, social action, context, text, and demonstration. These labels serve an organizational function for the patterns we found in children's writing across our program of research. Once we identified a pattern in our data we searched the literature in reading, writing, and related fields, to identify how others had talked about this phenomenon and what specifically their discussions and our observations meant to understanding literacy and literacy learning.

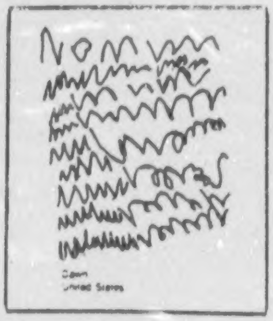
The sections which follow each contain two parts. Using protocol materials, Part One identifies and establishes what we see as significant patterns emerging from our data and why we view them as such. Part Two traces the significance of these patterns conceptually for purposes of rethinking literacy via a review of pertinent research and a more indepth analysis of selected protocols. In this process of looking at the young child as reader and writer, typical data and typical data analysis procedures used in our program of research will be presented.

2.1 ORGANIZATION

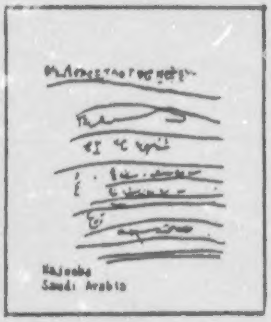
2.1.1 ORGANIZATION: THE YOUNG CHILD AS INFORMANT

By 'organization' we refer to patterns in children's reading and writing behaviors which seemingly reflect, in their genesis, a common set of cognitive processing decisions on the part of the language user and learner. When asked to write, for example, we found young children make markings which reflect the written language of their culture. We interpret these data to mean that the psycholinguistic processes in written language use and learning are sociologically rooted. These data support the notion that young children are written language users and learners long before formal instruction and that they actively attend to written language; in short, there is literacy before schooling.

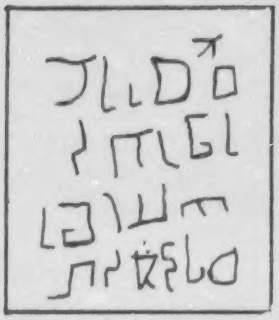
- *Dawn, a 4-year old from the United States, writes in unconventional script using a series of wavy lines. Each line is written from left-to-right. Dawn creates a page of such lines starting at the top of her page and finishing at the bottom of her page.*



- *Najeeba, a 4-year old from Saudi Arabia, writes in unconventional script using a series of very intricate curlicue formations with lots of "dots" over the script. When she completes her story she says, "Here, but you can't read it, cause I wrote it in Arabic and in Arabic we use a lot more dots than you do in English!"*

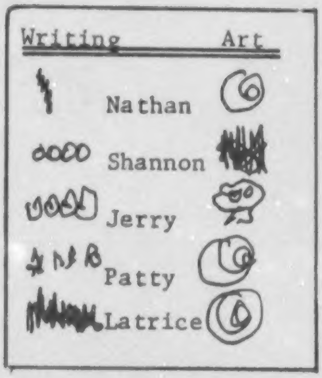


- *Ofer, a 4-year old from Israel, prints, first right-to-left, then left-to-right, using a series of rectangular and triangular shapes to create his story, which his grandmother says, ". . . looks like Hebrew, but it's not." Her concern because he sometimes writes "backwards" sounds like the concerns of many parents and teachers in the U.S., with the difference being that left-to-right is "backwards" in Hebrew, and right-to-left "backwards" in English.*

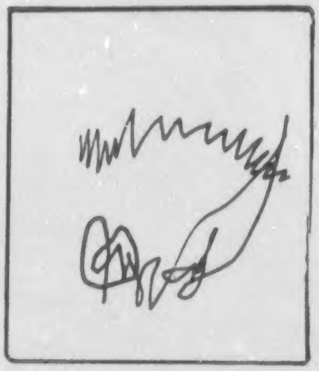


We also found that cognitively particular decisions made for writing are organized and orchestrated beyond language to include and affect assimilative structures across various communication systems.

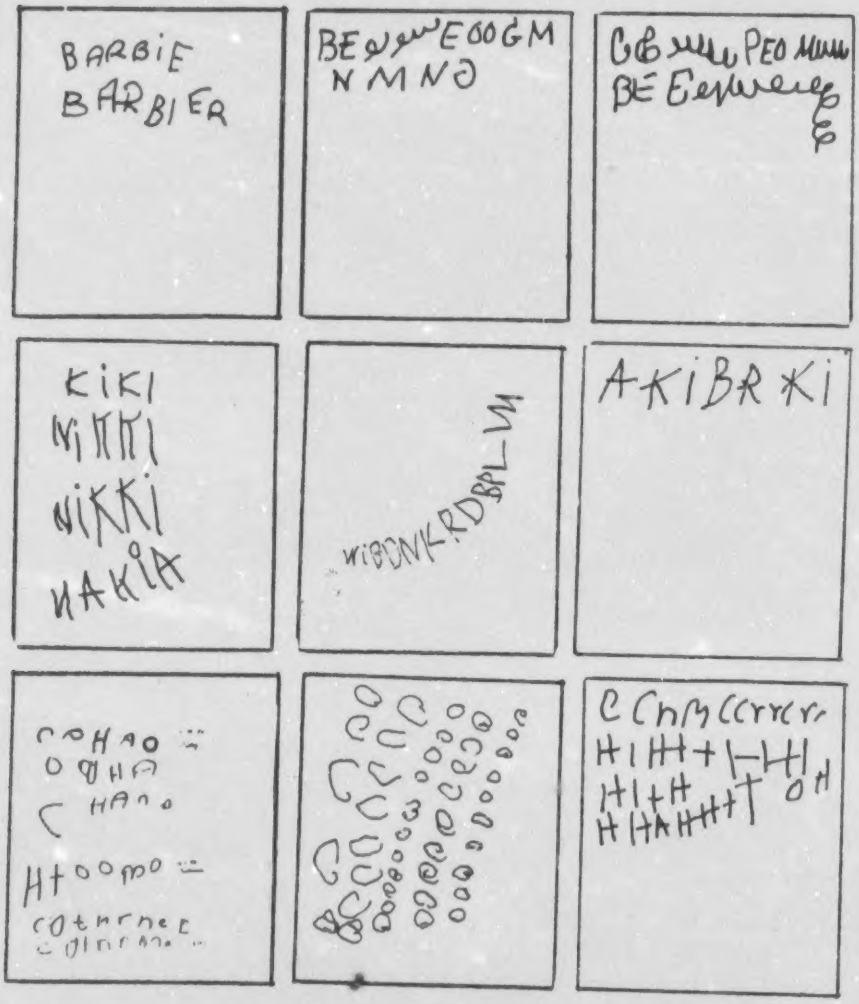
- *Nathan, age 3, uses a linear, wavy line for writing but a circular, more globally central set of markings for art.*
- *Shannon, age 3, on the other hand, does just the opposite, using a series of linearly organized circles for writing, but a series of up-and-down lines centrally positioned for art.*
- *Jerry, age 3, like Shannon, uses a series of linearly organized circles for writing, but a series of embedded circles and straight lines to placehold his self-portrait.*



- *Patty, age 3, like Nathan, uses a series of dense up-and-down strokes to placehold her name and a series of open, more circular, forms to placehold her self-portrait.*
- *Latrice, age 3, like both Nathan and Patty, uses a set of dense wavy lines to placehold her name. Her art is more centrally positioned on the page and is created using a broad, circular motion.*
- *Elena, age 2, when asked to write her name, giggles and creates a wavy, linear line. → When asked to draw a picture of herself, Elena once again giggles but now makes a series of open, much larger, circular markings.*

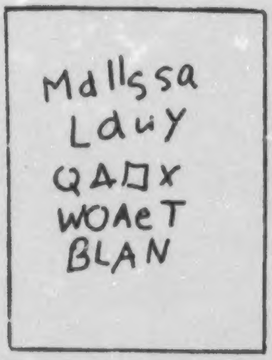


The organizational decisions which children make in writing are strongly influenced by the written form of their name. Given information as to what features of the name the child is or has attended to (see below), adults in this society have little or no difficulty identifying other writing samples which were created by a particular child even if we were to present such samples randomly.


BARBIE
BARBIER
BE EOOGM
NMNO
PEO
BE
KiKI
NiKKi
NAKiA
WiBONKRDBPLW
AKiBRKi
HAO
OHA
HA

By the start of first grade the surface texts which children create include a wide variety of organizational structures which clearly mark its genre to literate adult members of the child's interpretive community. When the organizational structures which children use are also found in the surface texts created by successful readers and writers in the child's interpretive community, we assume the child's use of these structures reflects intentionality and a real access to literacy. Further, we assume, in use 'organizational structures' function as 'signifying structures'. By 'signifying structures' we mean text features which are perceived as signs by members of an interpretive community. By studying how and when members of an interpretive community use such features and what they make of them, insight into the psycholinguistic and socio-linguistic processes involved in literacy and literacy learning is assumed.

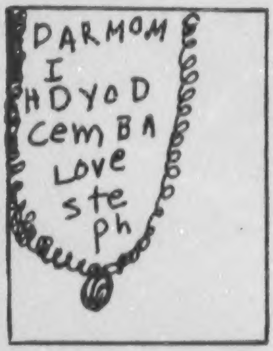
- *Stephanie, in a 2-day period the summer prior to entrance into first grade, created a birthday list, a map, a letter, and a story. Adult members of her interpretive community have no difficulty identifying which document is which as function and context are clearly signed in the surface texts of each document. Stephanie's decisions as to which information to explicitly include and explicitly exclude, how to allocate such information to art as opposed to writing, as well as how one syntactically and semantically formats and organizes various texts, closely parallel writing decisions made in the adult community for texts of these types.*



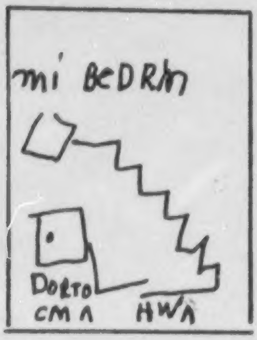
BIRTHDAY LIST
Melisa
Laura Guests

Tic-Tac-Toe
(Game to be
played)

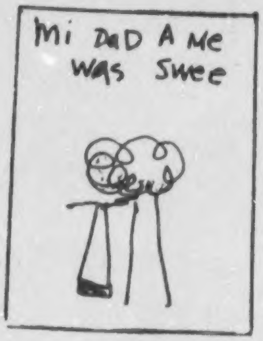
White Cake
Balloons



LETTER
Dear Mom
I
hope you
come back
Love
Steph
(Note:
Stephanie
decorated her
paper to look
like
stationery.)



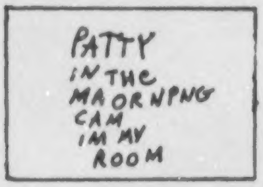
MAP FOR BIRTHDAY GUESTS TO GET TO HER BEDROOM
My Bedroom
Hallway
Door to
come in



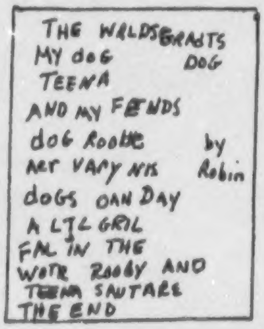
STORY PAGE
My dad and me
was swinging

(Note: Quite different functions for art in story as opposed to letter and map.)

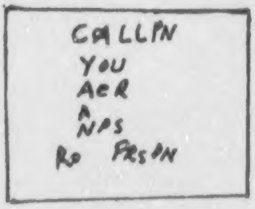
- *Robin, in a one week period prior to first grade, wrote several notes, a story, and a letter. Each of these documents is readily identifiable as to genre and reflects Robin's attention and understanding of key signifying structures which mark the surface texts which adult members of the interpretive community create for various contexts.*


PATTY
IN THE
MAORNPNG
CAM
IM MY
ROOM

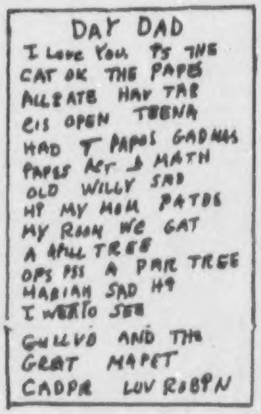
NOTE
Patty
in the
morning
come
in my
room


THE WALDS GRAETS
MY DOG DOG
TEENA
AND MY FRENDS
DOG ROOBE by
ART VARY NIS Robin
DOGS OAN DAY
A LTL GRIL
FAL IN THE
WOTR ROOBY AND
TEENA SAUTARE
THE END

STORY
The World's Greatest
My dog Dog
Tina
any my friends
dog Ruby
are very nice
dogs. One day
a little girl
fell in the
water. Ruby and
Tina saved her.
The end.


CALLPN
YOU
AER
A
NPS
Ro PRSPN

NOTE
Carolyn
you
are
a
nice
person
Ro (beginning of signature)


DAY DAD
I LOVE YOU IS THE
CAT OK THE PAPES
ALLRATE HAV THR
EIS OPEN TEENA
HAD 7 PAPES GADMAS
PAPES ART 1 MATH
OLD WILLY SAD
HI MY MOM PATDE
MY ROOM WE GAT
A APULL TREE
OPS ISS A PAR TREE
MARIAH SAD HI
I WENTO SEE
GULLVO AND THE
GRAT MAPET
CADPR LUV ROBIN

LETTER
Dear Dad
I love you. Is the cat okay? The puppies already have their eyes open. Tina had 7 puppies. Grandma's puppies are 1 month old. Willy said Hi. My mom painted my room. We got an apple tree. Oops, it's a pear tree. Marcie said Hi. I went to see Gulliver and The Great Muppet Caper. Love Robin.

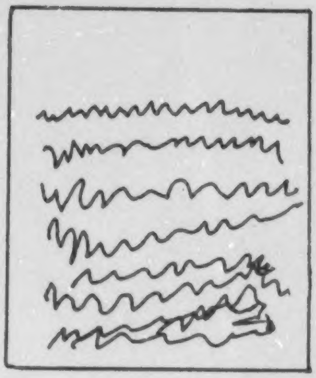
The structural variations in the oral responses which even children as young as 3-years old give, when presented alternate written documents and asked to read, suggest that attending to the salient signifying structures in various written texts is a key element in written language learning. Attention to these features has obviously, given what the 6-year old already knows, provided the child a basis for making predictions and testing hypotheses about how written language and oral language differ as well as how written language operates in various settings.

- *Charvin, age 4, gave the following responses when asked to read various items of environmental print: "Don't know, Eggs, Ronald McDonald's, Coke, Toothpaste, Burger Chef." When writing a language experience story Charvin dictated, "It's a horn. It's a baseball bat. This is my choo-choo train. It blows up." When asked to read a letter he had received from Linda, a research associate on the project, Charvin read, "Linda, Linda, Linda. I like you."*

- *Latrice, age 3, gave the following oral responses in reading environmental print, "A thing, A cup, Eggs, A cup, Toothbrush, A Burger King cup." The oral language she used in dictating a story is structured differently reflecting her understanding that a differing set of signifying structures operates in the written language of stories as opposed to environmental print: "A spoon. A spoon to eat. There's a string. You put it round your neck like this." When asked to read a letter she received, Latrice's response reflects an alternate set of predictions about how written language would be organized in a letter setting, "Linda. My like it."*

- *Nathan, age 3, gave the following types of responses to various pieces of environmental print: "Don't know, Eggs, McDonald's, Coke, Toothpaste, Burger Chef." The structure of these responses clearly indicates his understanding of how environmental print is organized and what it is one attends to when reading environmental print. When asked to dictate a language experience story for transcription, Nathan dictated, "Put the key in car," basing his oral response on his physical activity at the time of dictation. Rather than dictate, "I put the key in the car," Nathan's text does reflect a slight shift in psychological stance and a prediction on the part of Nathan that the organizational principles here are quite different than those used in responding to environmental print.*

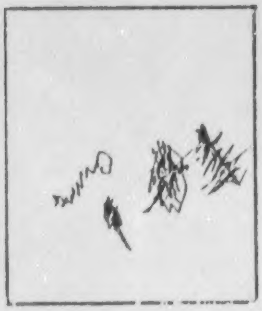
Children's semantic decisions in responding to print and in creating an extended surface text show concerns for unity and the use of strategies common to their interpretive community.



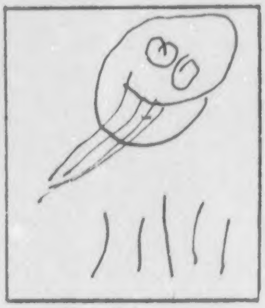
- *DuJulian, age 3, was asked to read what he had written during uninterrupted writing. His response reflects use of a basic propositional form which gets repeated formulaically to produce an extended text. The semantic field around which all entries in his surface text cohere is 'family members': "Me, and my daddy, and my grandma, that's my granddaddy, that's boy--boy, that's my grandma, that's Ricky, that's too Ricky."*
- *Dawn, age 4, selected a paint brush, a toy elephant, and a car to use in thinking up and telling a story for dictation. Given this array of divergent items she manages to create a unified text by thinking of a context in which such diversity might be handled in a unified manner (a shopping trip) and uses a repeated propositional structure to further build a unified surface text: "I'm going to buy a book of jingle bells. I'm going to buy a paint brush. I'm going to buy an elephants. I'm going to buy a car."*
- *Sally, age 5, ignores the items she selected for use in telling her story and relies instead upon a story structure she evidently has abstracted out of past story encounters: "Once upon a time there was a little girl and she was seventeen. And she rided a car. And she saw a statue."*
- *Alanna, age 6, selected a Play School person, a toy car, and a toy elephant (which she calls a 'pet') with which to tell her story. The unity she creates through a variety of syntactic forms reflects her sophisticated understanding of cohesion and her ability to orchestrate such factors given the constraints on story writing this setting posed: "People walk. Cars drive. People drive cars too. People live in houses. The pets live in houses too."*

The range of decisions children make in an attempt to capture in writing what they perceive as key conceptual and perceptual features of their world are not unlike the problems and decisions which the originators of our language not only faced but had to solve.

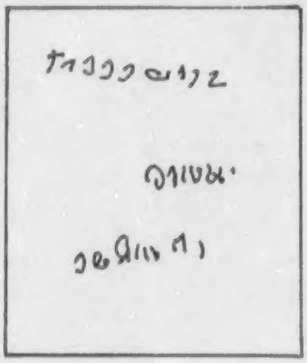
- Charvin, age 4, when asked to write anything he wished to write made three dense sets of markings, using an up-and-down stroke for each. When asked to read what he had written, Charvin read, pointing to each blob in right-to-left sequence, "tree, bear, dog," thus demonstrating a sense of wordness using a one concept per one mark rule.



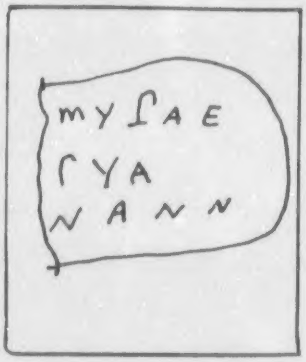
- Lisa, age 3, was asked to write her name. She did so using a series of five l's. When asked to read what she had written, Lisa pointed to the first l and said, "My"; then pointing to the second l, she said, "name"; the third, "is"; the fourth, "Li"; the fifth, "sa". Lisa's "My name is Lisa" response demonstrates her active testing of the hypothesis that oral language maps onto written language following a one mark per one syllable rule. Lisa's decision to use l's as opposed to some other marking is no doubt influenced by the physical form of her written name and demonstrates the orchestrated complexity of the child's hypothesis testing in writing.



- Michael, age 4, wrote his name using a set of very intricate letter-like shapes. When asked to write anything else he wished to write, Michael moved to a new spot on his paper and made another linear sequence of similar shapes. Finishing this set, he moved to yet a third spot and repeated the process. While each set of markings placeheld a concept for Michael, much as it did for Charvin, Michael has attended to the fact that our writing system is made up of letters and is actively exploring how such a system might work.

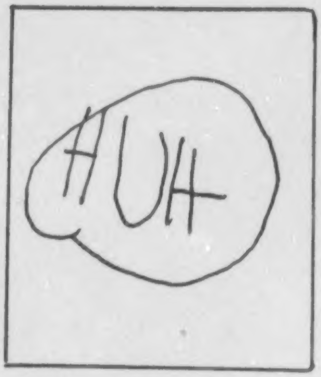


- Michelle, age 4, was asked to write her name and anything else she could write. Using English letter forms, Michelle wrote her name M-Y upside down J-A-E. Underneath this she wrote her father's name, Jay, spelling it, upside down J-Y-A. Underneath her Jay she wrote her mother's name, Nancy, spelling it N-A-N-N. In rereading what she wrote, Michelle read, "Michelle,



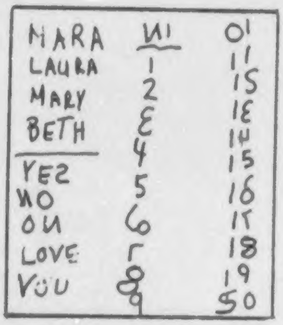
Jay, Nancy," paused, and then, snatching the pen, drew a circle around the 3 names and announced, "Now that says Morrison," which was in this instance the family's last name.

- *Erica, age 4, wrote a letter to Hugh signing the envelope H-U-H. Thinking these letters had to be kept together, Erica solved the problem by drawing a circle around them to mark their wordness.*



HUH

- *Mara, age 5, was very conscious of wordness. Her decision was to write in list form producing a text consisting of 3 columns.*

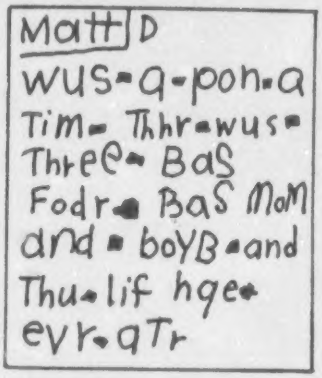


MARA
LAURA
MARY
BETH
YEZ
NO
OU
LOVE
YOU

NI
1
2
Ɛ
4
5
6
Γ
8
9

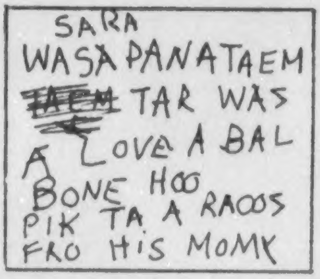
01
11
15
1Ɛ
14
15
16
1Γ
18
19
50

- *Matt, age 7, was asked to write a story. He elected to write a rendition of* The Three Little Pigs *instead of creating an entirely new story. Matt wrote multiple words on a line but meticulously drew squares which he blackened in to separate each of his word units.*



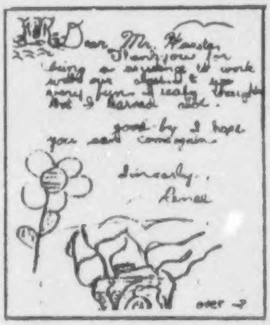
Matt D
wus■q■pon■a
Tim■ Thhr■wus■
Three■ Bas
Fodr■ Bas MoM
and■ boyB■and
Thu■lif hqe■
evr■aTr

- *Sara, age 5, began her text with the traditional "Once Upon A Time" which she wrote as a single word (WASUPONATIM). Since semantically "Once upon a time" signs a fictional text to readers, Sara's decision here reflects the active testing of the hypothesis that language is written in conceptual units.*

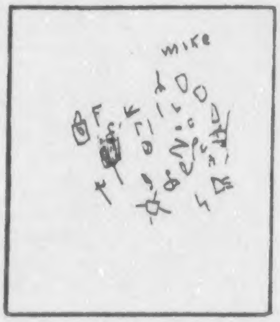


SARA
WASAPANATAEM
~~TAEM~~ TAR WAS
A LOVE A BAL
BONE HOO
PIK TA A RACOS
FRO HIS MOMY

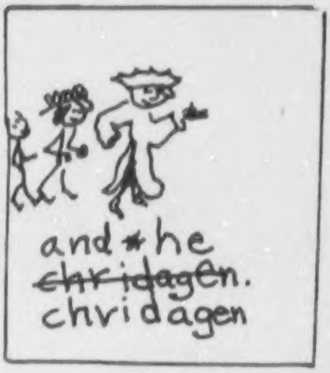
- *Jennifer, Ranee, David, Aaliya, Ariel, Redzuen, and Saul, all age 9, wrote Thank You as one word (THANKYOU) in an unedited set of Thank-you-letters they were asked to write by their 4th grade teacher to the researchers for having come into their room to work with them on writing. Since 'Thank You' operates as a single conceptual unit, their decision is not an unreasonable one and nicely demonstrates that the problems younger children face are not unique to that age level.*



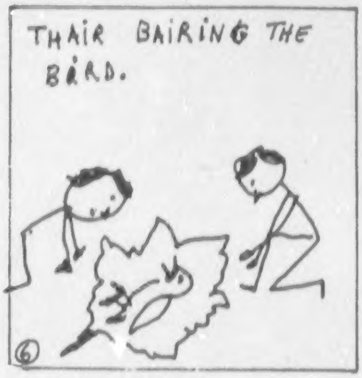
- *Mike, age 4, wrote his name quite conventionally spelling it M-I-K-E. When asked to write anything else he could write, Mike wrote a series of letter-like forms which he embellished to look like the concepts being placeheld. 'Owl', for example, began with an A and was embellished with a beak and feet. Mike's final text looked much like those created by the American Indians, and like such texts, served a memorability and retrievability function that Mike's earlier writing did not possess.*



The organizational decisions which children demonstrate in spelling reflect a sensitivity, concern, and attempt to orchestrate the multiple organizational structures and principles on which our written systems are based.

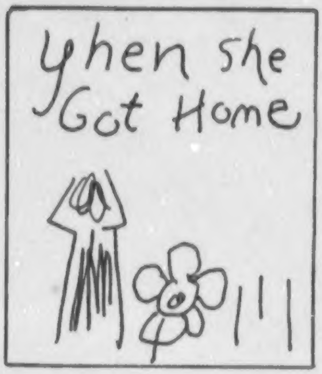


- *Jason, age 7, said the character in his story "tried again," a concept which he placeheld by spelling it C-H-R-I-D-A-G-E-N. In reading his text, his C-H-R-I-D-A-G-E-N. momentarily stopped him, a problem he resolved by attending to the meaning he was trying to convey at this point in the story. Thinking his spelling was at least a part of why he couldn't immediately retrieve his text, he decided to fix it up by crossing out his first spelling and correcting it. The result of this new effort was C-H-R-I-D-A-G-E-N, the exact same spelling as his original effort. This single spelling demonstrates Jason's attempts to orchestrate his intuitive understandings of the English orthographic system. He attempts to write the way it means ('tried again' being perceived as a single concept); he maps sounds to graphemes (/t/ and /ch/ are formed orally by the tongue being at the same point in the mouth at the time of articulation); he represents sounds by their letter name (/i/ sound at the end of 'try'); he placeholds syllables in oral language with a single or double grapheme; and he uses the knowledge he has gained from reading to visually get the word to look right. Even the most phonetic of spellings are written in letter forms available only to the child through reading. Notice that Jason's distribution of vowels reflects the English pattern, but that it was his concern for the appearance of the word visually which triggered his revision. It is important to note that Jason's understandings are not random, but rule-governed, so much so, that in rethinking and rewriting the idea 'try again' he is led to the same conclusions.*

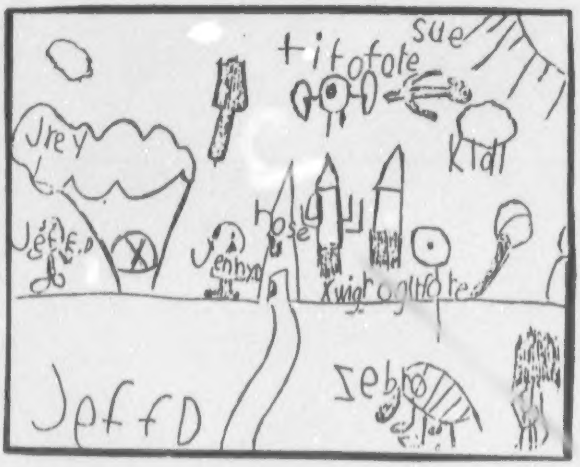


- *Kammi, age 6, wrote a story in which the words their and burying occurred. In writing their, Kammi wrote T-H, then paused, pronounced the word, and wrote A-I-R. She wrote burying by sounding it out and referring back to her spelling of their when she realized it contained the same internal sound. The result was B + A-I-R + I-N-G. Kammi's behavior demonstrates not only her deep understanding of how oral language is mapped onto written language in English, but, like Jason, the value and role visual memory plays in the process. Kammi's assumption that how her solutions to problems posed in the past were available as data which she could use in solving a new spelling, reflects her access to this strategy and is one decision which the inventors of our orthographic system clearly operated on.*

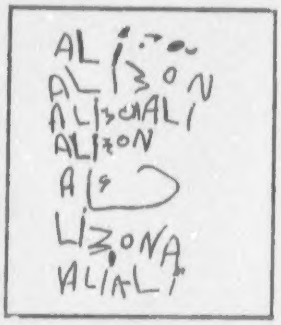
- *Rebecca, age 6, wrote when, spelling it Y-H-E-N. In producing this spelling Rebecca first audibly said "when" and "why," thus attempting to associate the word to others she knew. Since the word "why" says the letter name "y", Rebecca writes Y as the first sound. Having gone this far she audibly again says "when" and writes H-E-N to finish her spelling for this word. Having solved this spelling once, whenever she needs the word again in her text she refers back to this spelling and simply copies it.*



- *Jeff, age 6, writes the word house, spelling it H-O-S as he sounds it out. Once completed he pauses, relooks at his spelling and reflects, "I'll bet there is a silent E on the end of that word!" adding an E so his final spelling is H-O-S-E. Jeff's behavior here clearly shows that he is operating on his or someone else's rules which, while he finds them unpredictable, are, nonetheless, to be expected in English orthography. Later, in the same text, Jeff writes cloud, spelling K-L-D as he sounds it out. He then pauses, reflects audibly, "I'll bet there is a silent L on the end of that word," and adds a final L (K-L-D-L).*



- *Alison, age 4, tried to recall a story she had written and was told by her mother that if she wished to remember her stories she'd have to write them down. Taking out a sheet of paper she wrote the letters of her name in random order going left-to-right and top-to-bottom, thus filling her page with A's, L's, I's, S's, O's, and N's. In the weeks that followed, whenever she wanted to read her story, she*



would get out her sheet of paper and faithfully read her story, recreating it with amazing accuracy. In addition to having demonstrated an understanding of how writing works, Alison also demonstrated that she knew that written language was composed of a finite set of letters which were simply repeated in various orders to produce text.

- *Marvin, age 3, in responding to various pieces of environmental print and asked what they said, responded by giving generic labels ("cottage cheese," "milk"), related concepts ("toothbrush" for Crest; "U.S. Army" for U.S. Mail), attributes ("Hot" for Dynamints), functional descriptions ("Stop" for a Stop sign; "Eat it" for Burger Chef), brand names ("McDonald's", "Lego"), situational descriptions ("cup" for Wendy's, "A box with sugar in it" for Jell-o) and associations ("Rubber-Band" for Band-Aid). In so doing his responses, like 98% of all reading responses of children 3, 4, 5, and 6-years old, fell within the semantic field and decision matrix our society uses in labeling environmental print, i.e., generic labels (Cotton Balls), related concepts (Mars for candy bars), attributes (Efferdent), functional descriptions (Mop & Glo), brand names (Johnson & Johnson), situational descriptions (7-11 Grocery Stores), and associative chaining (S.O.S. Soap Pads). The importance of these data is that they illustrate how accessible our organizational system is and how attentive and diligent young children are in understanding the rules which semantically operate in written language settings with which they are familiar.*

Given these observations about organizational patterns in the reading and writing data we collected, the following section traces the significance of these patterns for purposes of rethinking literacy via a review of pertinent research and a more in-depth analysis of selected protocols. Specifically we will attempt to apply and relate recent theoretical research, typically conducted with much older language users, to our findings for purposes of synthesizing and updating our understanding of the psycholinguistic and sociolinguistic processes involved in literacy and literacy learning.

2.1.2 ORGANIZATION: INTERDISCIPLINARY PERSPECTIVES

As if to demonstrate that there is nothing so practical as theory, one of the major contributions of cognitive psychologists has been schema theory and its demonstrated applicability to understanding psycholinguistic processes in literacy (Neisser, 1976; Smith, 1978; Spiro, 1977; Adams & Collins, 1978; Rumelhart & Ortony, 1977; Anderson, Reynold, Schallert & Goetz, 1977). There is presently no single accepted statement of schema theory, though the broad outline is fairly well defined. Generally, schema theorists are interested in how the mind processes, stores, and retrieves input. There are several theoreticians and researchers in the area whose positions are generally similar but specifically different (Neisser, 1976; Rumelhart & Ortony, 1977; Spiro, 1977; Bobrow & Norman, 1975; Minsky, 1975; Shank & Abelson, 1977).

Schema theorists postulate that the human memory system is made up of interacting knowledge structures called schema. Neisser (1976) defines a schema this way:

> A schema is that portion of the entire perceptual cycle which is internal to the perceiver, modifiable by experience, and somehow specific to what is being perceived. The schema accepts information as it becomes available at sensory surfaces and is changed by that information; it directs movements and exploratory activities that make more information available, by which it is further modified. (p. 54)

Put simply, schema theory posits the mind as a highly complex set of cognitive structures which govern not only perception but also comprehension. Whereas earlier theories had separated perception and cognition, schema theory joined the two and in so doing moved the language user center stage.

From the perspective of schema theory, reading comprehension specifically, but comprehension generally, was predictable in that what was brought to the process strongly affected what was gotten out of the process. From a schema-theoretic perspective, comprehension is seen as a process of sense-making in light of or through assimilation and accommodation of cognitive structures; learning is seen as the binding, building, and reorganization of cognitive structures. A vital component in both comprehension and learning is inferencing which, from a schema-theoretic viewpoint, involves the filling in of necessary "default values" or "slots" based on background information in order that what was being perceived made sense.

Because of a tendency to think of schema as static hierarchial mental structures, Smith (1978) reconceptualized schema theory and began talking about it in terms of a "theory of the world in the head." Smith's reconceptualization was a significant contribution since it highlighted the dynamic, ever-changing nature of schema as well as the power and significance of this conceptualization as a process perspective for motivating as well as driving comprehension and learning. Smith's use of theory as opposed to structure suggested not only higher, more complex levels of mental organization, but an ordered set of relationships between cognitive structures such that to alter one necessitated reformulation of others.

A common thread which runs through all of the work in schema-theory is an assumption of non-randomness. For comprehension and learning to be maximally useful and something other than rote, it must be embedded or tied to existing cognitive frameworks or structures.

It should be obvious from this discussion that there are many parallels between schema theory and the work of Piaget (see Ginsburg & Opper, 1979). Both schema theorists and Piagetians believe schema are hierarchically arranged mental structures and that learning takes place through changes in them. Piaget refers to these changes as assimilation, accommodation, and equilibration. While schema theorists believe in these processes generally, Neisser (1976) for one does not believe accommodation is possible and that all learning must therefore be assimilative. Shanklin (1982), in making a comparison between schema theory and Piaget, says of both theories:

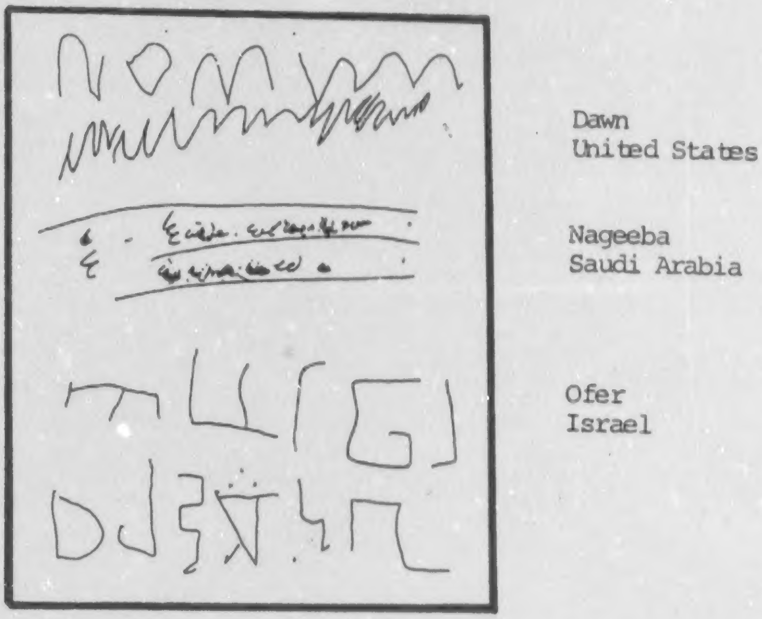
> Schematas are thought to grow from the general to the precise, the personal to the impersonal, and the context dependent to the context independent. In both theories experience and manipulation of objects is thought to play an important role in such growth. Children come into the world, not as blank slates, but wired with capacities for thought and language. The learning process, according to both theories, is continual and what is learned at one stage must necessarily be carried on to the next. (p. 35)

Important differences between schema theorists and Piagetians do exist. Piaget's view of growth and development, for instance, is much more biologically and genetically based than is the view held by schema theorists. According to Piaget, children develop the capacity for certain kinds of mental operations at certain ages on a more or less fixed biological timetable. This does not mean that experience is unimportant, only that biology takes precedence. Schema theorists, on the other hand, do not tie cognitive maturation so closely to biology, but rather see experience, particularly accumulated prior knowledge, as central to explaining differences between child and adult thought. They would argue that the cognitive operation underlying child and adult thought is the same and that differences are in content and not so much in process per se. Schema theorists would argue that when faced with a new phenomenon, process distinctions between child and adult thought dissolve; the learning process for all ages looks much the same.

Our own position, while not inimical to schema theory, is more like that of Halliday (1974) and Vygotsky (1978) in that we see language learning as first and foremost a social event. From our perspective schema are socio-cognitive phenomena and specific both to culture and to context. The strongest evidence we have for supporting our view is the writing of young children across cultures (see Figure 9). In contrast to Najeeba's and Ofer's scribbles, Dawn's looks decidedly English-like. Najeeba said as she completed her piece, "Here, but you can't read it . . . I wrote it in Arabic and in Arabic we use a lot more dots than you do in English." Ofer is an Israeli child whose writing looks decidedly Hebrew.

What these data demonstrate is that long before formal instruction the young child is actively making sense of the world, including the world of print. Importantly, however, these samples substantiate that not only are the language decisions which children make organized, but also that such organizational decisions are sociologically and contextually rooted. This insight, of course, does not deny a schema-theoretic perspective, but rather sharpens it. Practically what this distinction means is that if Piaget and we were to draw our models of learning in graphic form, they would look quite different from each other, even though they may have the same major components. Let's say, for example, that both Piaget and we would decide to use three overlapping circles to represent the interplay of biological, psychological, and sociological influences in literacy learning. The amount of influence each factor has would determine the size of the circle--small circle, a small influence; a large circle, a large influence. Which factors were seen as key would determine the order of the circles and their arrangement. While Piaget and we might start with the same components in our models, the size, order, and arrangement of our three circles would be quite different.

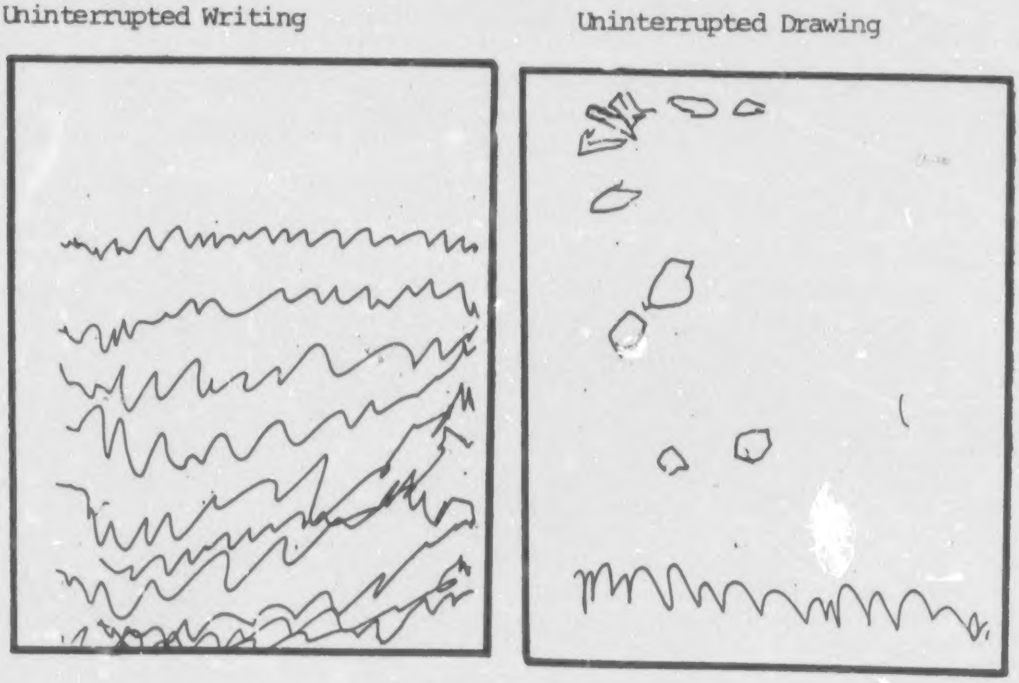
Figure 9. Multicultural Writing Samples: Composite



EARLY ORGANIZATIONAL PATTERNS. Although not as immediately evident in the surface structure texts as that of more experienced written language users, the organizational decisions underlying the writing of children as young as 3-years old is discernible with study. Theoretically this discovery is important as it suggests scribbling is not scribbling in the sense of being unorganized and random, but bears much similarity at a process level to the activity we have called writing.

Figure 10 presents DuJulian's (age 3) uninterrupted drawing and writing samples. Given knowledge of the fact that DuJulian organizes

Figure 10. Uninterrupted Writing and Uninterrupted Drawing Samples: DuJulian (Age 3).



Uninterrupted Writing

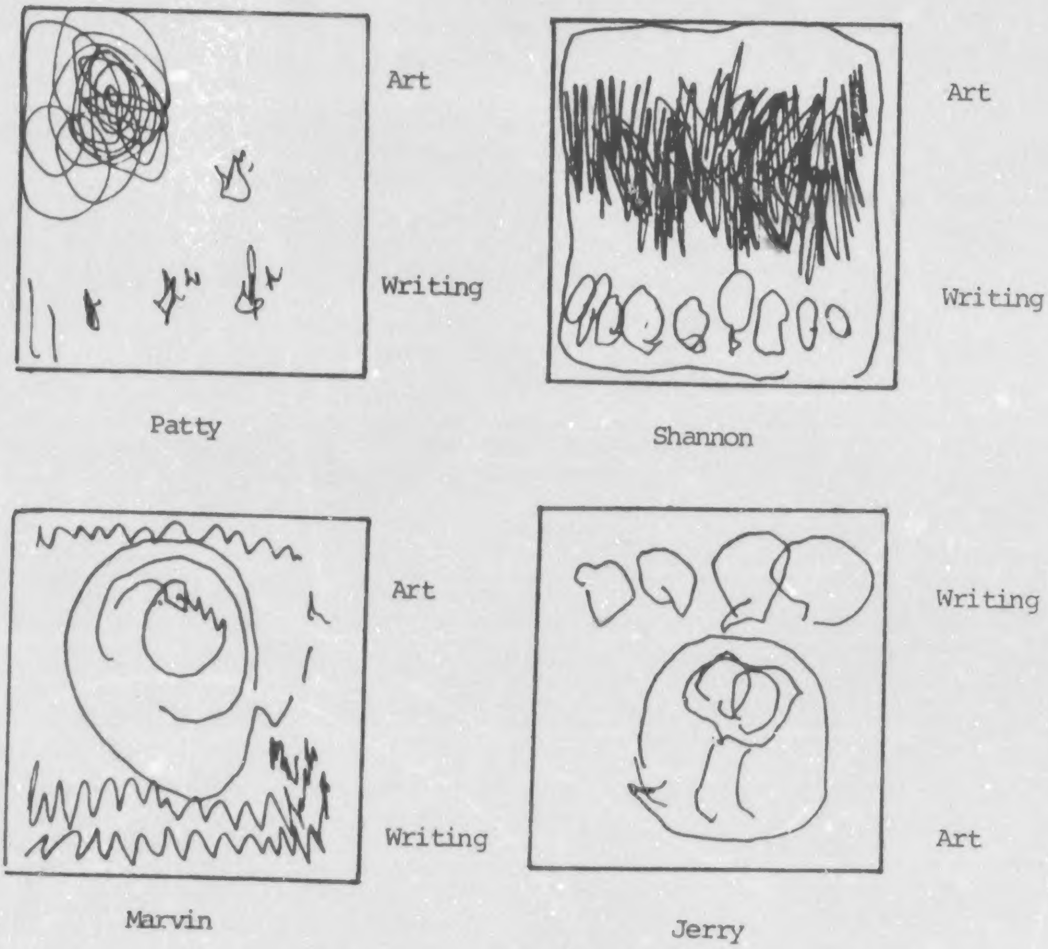
Uninterrupted Drawing

his writing using a linear, up-down stroke (see Uninterrupted Writing Sample, Figure 10), it is readily apparent which marks were made to placehold the picture of himself (see top section of Uninterrupted Drawing Sample, Figure 10) as opposed to those made to placehold his name (see bottom section of Uninterrupted Drawing Sample, Figure 10). Art for DuJulian involves circular markings; writing involves linear strokes with up-down markings.

If the decisions which 3-year olds make for art as opposed to writing are indeed different, then it follows that examination of the sets of scribbles constituting the product of a task which asks them to draw a picture of themselves and sign their name should reflect these alternate decisions; in short, scribbling in art should look different from scribbling in writing. That this is, indeed, the case is readily apparent when one examines the samples in Figure 11. Not only can scribble writing be differentiated from scribble drawing, but we have found adults have little difficulty, given the linearity of writing and the global cohesiveness of art, to differentiate which is which, even when the markings have not been labeled and categorized as has been done in Figure 11.

These data demonstrate the organization present in the products of art and writing scribbles. The unity of the child's decisions across art and writing, as well as the support such unity provides in motivating and driving literacy learning, needs further elaboration. In searching for process principles underlying the decisions made for art as opposed to writing, one of the things to be noticed is that some children

Figure 11. Uninterrupted Drawing Samples: Self-Portrait and Name (Age 3)


Art
Writing
Patty
Art
Writing
Shannon
Art
Writing
Marvin
Writing
Art
Jerry

reserved up-down strokes for writing and circular markings for art; other children did just the opposite, i.e., used circular markings for writing and up-down strokes for art. For example, DuJulian (see Figure 10) used an up-down stroke for writing and a circular stroke for art. Shannon, on the other hand (see Figure 11), used a circular stroke for writing and an up-down stroke for art.

In studying this phenomenon we discovered that if the child's name begins with a letter which is made up of linear elements, such as the L in Latrice's name which is made up of two straight lines, the odds that the child's scribble writing is composed of up-down strokes is high. Similarly, if the child's name starts with a letter which is composed of curved elements, such as the S in Shannon, the odds are high that the child's scribble writing is circular. Among the 3-year old sample, using this simple formulaic relationship, prediction as to the organization of writing and hence art for any individual child is 0.91. When all of the letters of the name are used and a proportion of linear letters to circular letters is calculated, the prediction made from the proportion which results raises to 0.93. While it appears to be largely irrelevant which organizational form is selected for art as opposed to writing for any given child regardless of the form of their name, the point is that a relationship exists between decisions made in writing and decisions made in art and vice versa. These data, then, support Smith's clarification of schema theory in that it shows that the complex of decisions made in writing in contrast to the complex of decisions made in art by a child are orchestrated and organized at levels beyond the particular cognitive structure of the system itself.

LATER ORGANIZATIONAL PATTERNS. Language is, of course, laced with organization. The reason age correlated with language is that what three additional years mean to the language learner is twice the number of opportunities not only to encounter, but to discover more and more of these organizational features. Figure 12 outlines some of the organizational perspectives which are available in looking at young children's writing. In the sections that follow two texts will be used for an extended discussion of some of the organizational features which are present in the written products of children two and three years older than those we have been examining.

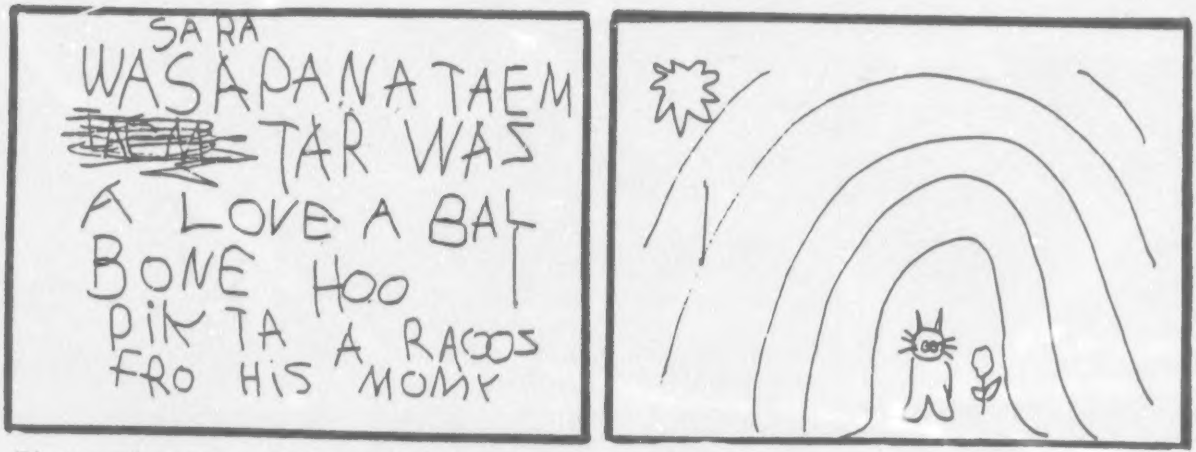
Figure 12. Text Organizational Perspectives

TEXT PERSPECTIVES

- PRAGMATIC
    - function
- GRAPHOPHONEMIC
    - spelling the way it sounds
    - spelling the way it looks
    - spelling the way it means
- SYNTACTIC
    - flow
    - structure
- SEMANTICS
    - semantic field
    - semantics of syntax (transitivity)
    - syntax of semantics (i.e., case grammar)

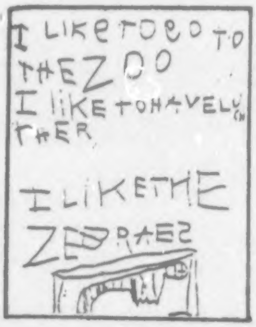
Testing Your Child-As-Informant Skills. Because many adults assume children are in a state of "cognitive confusion," when, in fact, this label better describes their own present level of understanding, much of the organization displayed by children is missed. Before you read the translations for Sara and Matt's texts (Figures 13 and 14), assume, as we have trained ourselves to do in this project, that the decisions which these young writers have made are organized and test your child-as-informant skills by attempting to read their written efforts. The pictures Sara and Matt include in their stories are an integral part of their texts. It should be kept in mind that children 2 and 3 years younger than Matt and Sara, when reading what they have written--long before their surface texts become as "conventional" as are Matt's and Sara's--demonstrate that their writing shares many of these same organizational features.

Figure 13. Uninterrupted Writing Sample--Sara (Age 5)



SARA
WASAPANATAEM
TAR WAS
A LOVE A BAL
BONE HOO
PIK TA A RACOS
FRO HIS MOMY

Figure 14. Uninterrupted Writing Sample--Matt (Age 6)



I LIKETOGO TO
THEZOO
I LIKETOHAVELUCH
THER
I LIKETHE
ZEBRAES

Surface Text Organization: A Pragmatic Perspective. A pragmatic perspective can be taken by asking what function the piece of writing was designed to serve. Knowing that Sara's surface text (Once upon a time there was a loveable bunny who picked a rose for his mommy) was a Mother's Day card, we have to say that the product served the expression of love, thoughtfulness, appreciation--in short, "mother's-dayness," quite well.

This observation does not resolve all of the pragmatic issues surrounding Sara's text, however. While the surface text functions as a Mother's Day card, "Once upon a time" is more suggestive of a fairy tale than a greeting card. Sara's use of one genre in service of another adds to the intrigue of the piece and is a text strategy which will be discussed more fully later.

Pragmatically, Matt's surface text is easily recognized as having been produced by him after a trip to the zoo with his first grade class. The fact that Matt's text is appropriate for this context is evident if you ask adults to tell you where they might find such a piece of writing. In workshops we have conducted, almost without exception, teachers can tell you what events led up to the creation of Matt's text.

Pragmatically, it is also important to note that Matt's text has no title. Some educators and linguists would take this as evidence that the young child has not developed the ability to produce a "decontextualized" text. The context of situation, however, makes entitling this piece "My Trip to the Zoo" unnecessary, since this was an assumption which was shared by all of the language users in this setting.

Surface Text Organization: Graphophonemic Perspectives. As suggested in Figure 12, we might look at Sara and Matt's surface texts with graphophonemic eyes, noting the regularities which appear. For purposes of discussion we have divided this section into strategies which involve the phonemic, the graphemic, and morphemic systems of language; namely, spelling the way it sounds, spelling the way it looks, and spelling the way it means.

Spelling the way it sounds. Much work has been done in this area (Marcel, 1980; Read, 1975; Baron, 1980; Marsh, Friedman, Welch & Desbery, 1980; Henderson & Beers, 1979, 1980; Zutell, 1978, 1979; Bissex, 1980; Chomsky, 1979). Our own analysis of the products which young children produce would suggest that there are essentially three sound-to-letter strategies employed: (1) spelling the way it sounds; (2) spelling the way it articulates; and (3) spelling the way it sounds out. Often more than one of these spellings strategies are involved in the single spelling of a word, i.e., JRESS for dress (Jeff, age 6) where the J is produced because j's and d's are formed at the same spot in the mouth (same point of articulation), and RES is produced on the basis of letter-sound correspondence. A fourth sound-to-print strategy is really a subtle instance of the first strategy but has been termed "the letter-name strategy," where a name of the letter coincides with a desired sound unit--as in R for "our," or in Sara's case, A as in "a loveable bunny." Sara's three uses of A's in "A LOVE A BAL BONE" demonstrate that the same marking can occur for entirely different sound-to-letter rules. Sara's first A is produced via a letter-name strategy; her second and third A's (LOVE A BAL) are produced via a letter-sound strategy.

Spelling the way it looks. Letter-sound observations are only a small portion of the spelling organizations and orchestrations which can be studied, and are probably the portion that has had the most intense observation by others to date. From the perspective of the young child as reader we might ask ourselves, "What evidence exists that past encounters with print have influenced the child's spellings?" We would then be looking for spelling which involves fine tuning written language with written language itself or which involves aspects of visual memory (Tenny, 1980). Since both of these surface texts are written using English letter-like forms, the thing we immediately know is both that reading is involved in the spelling process. We also know that no matter how phonetic a spelling may appear (R or "our"), just by virtue of the fact that it is placeheld with a recognizable letter of our alphabet, visual memory is involved in the spelling. Where else would these forms and this information come from? Those who suggest children write first and read later, and who use "invented spelling" as their evidence, have failed to appreciate key transactions between reading and writing in literacy learning.

In Sara's text she writes FRO for for. While we might wish to assume that the F and the R are produced on the basis of some sound-to-letter strategy, the very fact that these forms are recognizable as letters of our alphabet means that visual memory is inherently involved in what appears to be a phonetic act. Sara's inclusion of the O at the end of her FR is also motivated by visual memory. Having been a reader, Sara obviously recalls that there is an O in there somewhere and so tags it on the end. Whether this piece of information was accessed because the FR didn't look long enough is not known, though if this were the explanation offered, we might have a tendency to want to conclude that the child was spelling using a phonetic strategy and confirming using a visual memory strategy. The fact that both phonics and visual memory are involved in the production of even a single letter like the F just means that such efforts at bifurcation and order are misguided.

This point is important since many persons working in the area of "invented spelling" seem to believe that children initially spell using a phonetic strategy and that only later do they employ visual memory. We have shown that no such tidiness is possible, nor, we would argue, is it desired. The redundancy of cues across strategies sets up "tensions," permits reading experiences to transmit and support writing, and allows the spelling systems to be mastered, if desired, via orchestration.

Spelling the way it means. In addition to looking at spelling organizations relative to sound and visual memory, we might even look at spelling organizations based on meaning. In Sara and Matt's surface texts we have several excellent examples. In these instances we would be looking for spellings which have morphemic and higher levels of semantic organization. LOVE A BAL (loveable) in Sara's surface text is probably a spelling arrived at through a combination of syllabic and morphemic decisions. Sara's WASAPANATAEM (Once upon a time) is an even better example in which she demonstrates that for her this spelling is one conceptual unit. Semantically "Once upon a time" is a unit which signals fairy tales. The meaning of each individual word adds up to be quite different than the meaning of the phrase itself. From a psychological processing perspective it makes more sense to write "Once upon a time" as a single unit than to break it up into units unrelated to its meaning or psychological significance.

Sara's LOVE A BAL (loveable) in contrast to her WASAPANATAEM (Once upon a time) is a nice instance of how various ways to organize writing are not only conceptually possible, but simultaneously being explored in a single setting by the young child. Think of how much less language confusion there might have been in the profession if the originators of our language would have decided to write in chunks of meaning (like Sara's WASAPANATAEM) than in words. An interesting feature of Sara's surface text is the fact that she simultaneously tests at least 3 optional writing systems in a single setting: chunk writing by meaning (WASAPANATAEM); chunk writing by syllables (LOVE A BAL); chunk writing by words (BONE).

Matt's text has equally as many clear examples of his testing hypotheses relative to meaning in his spelling. Matt's refusal to divide the word LUNCH, which he squeezes on the line, suggests that for him LUNCH is a single conceptual unit and therefore not easily divided. Once children discover that in writing they can divide what previously had been a single conceptual unit by using a hyphen, they often divide everything and everywhere.

Alison, at 6.5 years of age, discovered the hyphen while reading a book. In this instance she asked what the "little mark" meant. For the next several weeks, hyphens appeared throughout her writing. In making her best friend a birthday card, she began on the left-hand side of the page writing Jennifer's name, but then suddenly realized that if she continued in that fashion she wouldn't be able to apply her latest language discovery. Her decision was to erase and begin writing Jennifer well toward the right of the page thereby running out of space and getting to use the hyphen.

The realization that concepts can be divided in writing when they are not able to be divided in real life comes late for most children--well after their early markings demonstrate application of a one-mark per one-concept rule. In fact this one-mark per one-concept notion is so natural that it is literally impossible to decide when children first develop a notion of "wordness." Our own frustrated attempts led us to conclude that when the child makes one blob for "a dog," another for "a tree," and a third for "a bear," the basic notion of "wordness" is evidenced. When one thinks about "wordness" from this perspective, the notion has so little power to explain growth in literacy that violations, "non-wordness" decisions like Sara's WASAPANATAEM, are more significant in understanding the evolution of literacy than are instances of the concept.

Other spelling strategies. There are, of course, other decisions which can be examined in the spellings, even of those words which we have already examined in Sara's and Matt's texts. In spelling loveable

(LOVE A BAL) Sara, at least in part, may be resolving this spelling on the basis of how she has resolved similar spellings in the past. As reported in our earlier volume (Harste, Burke, Woodward, 1981), we have some evidence that children consciously spell by their own or someone else's rules, often adding silent E's and the like after application of some other initial strategies.

A final strategy which we have found enters into children's spelling decisions is one we entitle, "Knowing One Doesn't Know." Often in these instances language users select a different word, or put down some rendition of the word they wanted which placeholds the item until they have time to check on the spelling later. Which of these strategies they use--choosing another word or placeholding the word they wanted using the best spelling they can muster on the spot--is seemingly a function of present and past writing contexts and the child's sense of risk involved. Nonetheless, "knowing one doesn't know" is a very complex strategy. The language user is saying that after having tried all of the spelling rules which seem applicable, the only thing known is that application of known rules doesn't solve this spelling problem. Because realizing one doesn't know is a significant step in knowing, this is clearly a strategy worthy of further study. Currently Chrystine Bouffler (1982), one of the graduate associates on this project, is completing a dissertation in the area of spelling, building from and extending the work which we have discussed here. Some of the issues she explores are that spelling ability varies by context of situation, that "invented spelling" is but a component of a more general and universal strategy which all writers use, and that development in writing ability involves the flexible use of and even tentative setting aside of spelling information.

Evidence of graphophonemic orchestration in reading. As a further measure of the young child's attention to the graphophonemic systems of language we compared the graphemic units in their language experience stories to the phonemic units produced during reading in terms of the relationship which existed. The categories which emerged from our data were (1) items which were Unavailable in the Surface Text read; (2) items which represented a Minimal Textual Signal (this could include attempts at sounding out); (3) items which were Available in the Text read; and (4) items which represented a Mixed Response combination of available and unavailable items.

In analyzing the children's first reading of their story only categories 3 and 4 proved useful with 45.9 percent of all units read being available in the story and 54.1 percent of all units representing a mixture of available and unavailable items. The trend in terms of Available In Text to Mixed Response was 28.6 to 71.4 for 3-year olds, 40.0 to 60.0 for 4-year olds, 45.5 to 54.5 for 5-year olds, and 66.7 to 33.3 for 6-year olds.

In rereading their language experience stories one day later 5.4 percent of all units produced were either Unavailable in the Text or represented a Minimal Textual Signal; 45.9 percent of all units read were Available in the Text read; 48.6 percent of all units read represented Mixed Responses types involving what was in the text and new or unavailable in the surface text. The trend in terms of Available In Text to Mixed Response was 57.1 to 28.6 for 3-year olds, 27.3 to 72.7 for 4-year olds, 40.0 to 60.0 for 5-year olds, and 66.7 to 22.2 for 6-year olds. While 3-year olds look more constrained in reading by the graphemic system than do 4 and 5-year olds, this phenomenon is largely a function of the relatively shorter stories they dictated and hence were asked to read and reread. Nonetheless, these data do suggest that when 3-year olds engage in reading they do so with some understanding of the graphemic constraints which are operating in this literacy event.

Overall, what these data show are that children are monitoring their early reading in light of available graphophonemic information and that from ages 3 to 6 an ever-conventional orchestration and use of the graphophonemic system occurs.

Surface Text Organization: Syntactic Perspectives. At another organizational level we can look for syntactic organization in the surface texts which young children produce. From this perspective we can ask questions relative to how the messages in these surface texts flow and whether or not there is inflectional agreement within and across sentences in the surface text.

From a socio-psycholinguistic perspective syntax is a text-context transaction. While many, for example, might not perceive environmental print to have a true syntax, such a perception ignores pragmatics. The syntax of environmental print is expressed in rules about how print functions and operates in this context.

At one syntactic level we can ask, "Do these texts sound like oral or written language?" Since not many of us run around saying, "Once upon a time there was a loveable bunny who picked a rose for his mommy," except under special settings such as story telling, we intuitively know that Sara's surface text is written language. Oral language, according to Halliday (1980), is syntactically complex, but conceptually not very dense ("Well, you see, there was this mouse . . . And this mouse was walking along and . . ."). Written language is conceptually dense, but syntactically elegant (Once upon a time there was a loveable bunny who picked a rose for his mommy).

Matt's text, because it is composed of several syntactic units, allows us to explore more fully intersentential grammar. Matt begins with an I LIKE statement which is followed by an ACTIVITY statement (I LIKE) + (GO TO THE ZOO). This format is used in the next sentence, becoming almost formulaic: (I LIKE) + (TO HAVE LUNCH THERE). His final statement is an I LIKE + OBJECT statement, which breaks the pattern. What is particularly interesting is that together his decisions constitute a highly organized set of syntactic and semantic decisions which greatly add to the coherence of the piece. His ordering decisions here are so good that even if you give adults each of Matt's statements separately and ask them to put them into a surface text, they almost inevitably put them in the order that Matt has put them.

Matt also seemingly knows that one way to signal an end to the text is by altering the syntactic patterns that have been set up. Here we have evidence of the interrelationship between reading and writing in language learning. From Matt's past encounters with written language as a reader, he has abstracted out how written language differs from oral language, and how authors alter syntax in an effort to terminate text. While Matt may not be consciously aware of these understandings about language, he demonstrates that successful language use and metalinguistic awareness are two different things and ought not--indeed, should not--be confused.

There are, of course, other things we might look at syntactically, i.e., the density and complexity of ideas, but because syntax and semantics are not independent language systems these seem best discussed using more semantic perspectives. This seems to be especially so since the one thing we have learned in the last ten years is that semantics is not a single language system and that syntax and semantics transact to form several systems (Beaugrande, 1980).

Evidence of syntactic orchestration in reading. As a further measure of the young child's attention to the syntactic systems of language, we compared the syntactic units in the language experience story dictated to the syntactic units produced during the child's reading of the story and described the relationship which existed in terms of syntactic coordination. Four categories emerged from our data: (1) No Apparent Coordination; (2) Generalized Coordination (TEXT: Fall Down. A Block; READER: "Grey Block. Fall Block"); (3) Available in Text (One to one syntactic correspondence between text and reading); and (4) Mixed (TEXT: And we read a book; READER: "And we read books"). This last category accepted minimal changes in meaning such as that illustrated above.

For purposes of analyzing the children's first reading of their language experience stories, only categories 2, 3, and 4 proved useful, with 18.9 percent of all units representing a Generalized Coordination between the text and what was read; 51.4 percent Available in Text or a one-to-one correspondence between syntactic units; and 29.7 percent a Mixed syntactic correspondence. The trend in terms of the percent of one to one syntactic correspondences between text units and what was read, the Available in Text category, was 28.6 for 3-year olds, 40.0 for 4-year olds, 54.5 for 5-year olds, and 77.8 for 6-year olds.

Because we suspected that some of what the child had dictated was not meant to be part of his or her story even though we had written it down as part of the child's story originally, for purposes of analyzing rereading behaviors, we used the child's first reading as the text base. In rereading their language experience stories one day later and comparing these syntactically to the surface text of their first reading, then, 5.4 percent of all units showed No Apparent Coordination, 16.2 percent showed a Generalized Coordination; 48.6 percent represented a one-to-one correspondence (the Available in Text category), and 29.7 percent showed a Mixed correspondence. The trend in terms of age for the Available in Text category (one to one syntactic correspondence), was: 42.9 percent for 3-year olds; 45.5 percent for 4-year olds; 40.0 percent for 5-year olds; and 66.7 percent for 6-year olds.

Overall what these data show are that even 3-year old children are very cognizant of the syntactic constraints operating in written language. The reason this effect is more pronounced in the rereading data than in the data from the first reading is that asides which the child made to us during story dictation were no longer being considered part of the child's text. In this sense, the set of figures quoted for rereading represent the degree of predictability of the child's second reading given his or her first reading. As can be seen, syntactically, this is universally high across all age levels. Theoretically, these data suggest that children are cognizant of the fact that syntactic constraints are very much a part of the 'text world' created during reading. Access and reaccess to this 'text world', and with it the constraints which operate, allow them to both predict and generate a syntactically quite successful text when reading, and, given our previous analyses, when writing.

Surface Text Organization: Semantic Perspectives. From a semantic perspective several features of the surface text may be studied and noted. There is the semantic field of meaning set up in the text which is partly identifiable through the lexical chains which run through the surface text to establish parameters of meaning within which the text world resides (Pratt, 1977). In Matt's surface text one such chain is formed by the lexical items ZOO and LIONS; another is formed by the repetition of LIKE. Recently King and Rental (1981) completed an extensive study of cohesion as a perspective from which to study written language growth and development. Their study demonstrates that all children have a fundamental understanding of various cohesive devices by the time they enter first grade, and that such knowledge varies by story mode and is best affected by quality story encounters over time.

How larger chunks of meaning are ordered in the text is called "syntax of semantics." Knowing the setting in Sara's text, "Once upon a time there was a bunny" sets a stage in which we expect an initiating event ("who picked a rose for his mommy"); the initiating event sets the stage for us to want to hear an attempt; an attempt, a consequence, and so on. While the "syntax of semantics" in some genre of texts is better known than in others, the reality of story superstructures in reading and writing seems to have psychological validity. When children's opening story lines are examined from our uninterrupted story writing task, for example, all children who elected to write stories began by the introduction of a setting or an antagonist. Story beginnings ranged qualitatively from "A Halloweeen ghost" (Terry, age 3); to "This is the boogyman house" (Towanna, age 3); to "Once there was a large forest with a house . . . The little girl lived there" (Jill, age 5). Additionally several children under this condition wrote informational stories about themselves which they introduced as: "I like candy" (Vincent, age 6); "We have a cat" (Latisha, age 6): "Chris is in first grade" (Chris, age 6). Often because the process of physically producing a surface text was so all-consuming, children never finished their "stories"; yet, what they did produce supports the concept of mental story structures as schematically operating in writing.

In many ways several of the newer issues in reading and writing are current attempts to further understand the complexity of the semantic systems of language. Meaning is orchestrated through mood, intonation pattern, rheme-theme, cohesion, transitivity relationships, given-new contracts, and more (Halliday & Hasan, 1976, 1980; Fries, 1980; Christenson, 1979). Cohesive harmony (Hasan, 1979, 1980), propositional analysis (Kintsch & van Dijk, 1978; Frederickson, 1977), macrostructural analysis (van Dijk, 1977, 1979), semantic negotiation across art, writing, and context (Harste, Burke, Woodward, 1981), and others are attempts to describe and understand the semantic system of language in use.

Studying semantic features in children's writing. To be coherent a text must have unity; that is, the units of meaning in the text must cohere or hang together. Coherence resides, however, not only in the linguistic surface structure of the text (this element of coherence is called cohesion), but in the mind of the beholder (Mosenthal & Tierney, 1982). Coherence simply defined is a measure of how unified the idea units of a text are. Part of coherence is directly expressed in the surface structure of the text including art work (see for example Sara's and Matt's use of pictures to support their written surface texts); the rest lies outside the surface text in the "text" we create in our heads as readers.

To study the coherence in the linguistic surface texts which young children produce we developed a semantic mapping procedure which assumes that the expression of coherence in surface text is important. From the writer's vantage point, the expression of coherence assures that the reader will be able to follow, or semantically track, the ideas being presented. From a schema-theoretic perspective, such expression of coherence assures that the units of meaning are organized and are not just bits of isolated information.

If we take Sara's text, the first thing we need to do is identify the mainline units of meaning which reside in the surface text. Once we have identified the mainline units of meaning we can then look across them in order to see what relationships exist between them. The system we use for this purpose is propositional analysis (Kintsch & van Dijk, 1978). Using this system the first thing that one does as a reader is attempt to identify mainline units of meaning, or what van Dijk has called "basic facts." Acknowledging that the text we create as a reader may in fact be different than the text Sara wanted to placehold in the surface text she produced, but probably will share features in common in that we are members of the same interpretive community, what we find in the first part of her first sentence is one basic fact; namely, *that there exists a bunny*. We write that in propositional form as follows where P1 stands for Proposition 1:P1 (EXIST, BUNNY).

Once upon a time tells us the circumstances of when the bunny existed. The second proposition modifies the first proposition. It's not a new basic fact, but a condition modifying the first basic fact. We write this proposition ~~P2~~ (CIRCUMSTANCES: (1), ONCE UPON A TIME). We draw an arrow through the P2 to indicate that this is a modification of a basic fact as all we need to deal with at this level are the basic facts themselves. We do this under the assumption that modifications (propositions which modify basic facts) are by definition already coherent.

Sara's text reads, "Once upon a time there was a loveable bunny." To this point, we have everything mapped except the concept LOVEABLE. Our third proposition, then, is: -P3→ (QUALITY OF, BUNNY, LOVEABLE). This, too, is a modification of a basic fact and so it too receives an arrow.

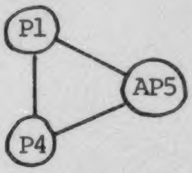
The next part of the sentence reads: " . . . who picked a rose for his mommy." Here we find another basic fact: P4 (PICK FOR, BUNNY, ROSE, G: MOMMY).

We now have two basic facts: P1 (EXIST, BUNNY) and P4 (PICK FOR, BUNNY, ROSE, G: MOMMY). Since Proposition 1 (P1) and Proposition 4 (P4) share a common case, namely, BUNNY, we map them as tied. To show this we can draw a line connecting them: (P1)—(P4).

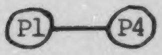
Sara's text ends here, but before we end this discussion, we will assume three different endings and explore what each of these endings means relative to the mapping of surface text coherence. For example, assume the next line of her surface text were, She was happy. We could propositionalize that: P5 (HAPPY, E: MOMMY) where E stands for experiencer. Because the case, MOMMY, appears in P4 (PICK FOR, BUNNY, ROSE, G: MOMMY) and P5 (HAPPY, E: MOMMY) we tie these two when we map them: (P1)—(P4)—(P5).

For purposes of further illustration, let's assume the text didn't read, She was happy, but rather, Bunny and Mommy were happy. We would propositionalize this alternative proposition (AP) as: AP5 (HAPPY, E: MOMMY AND BUNNY). Because P4 (PICK FOR, BUNNY, ROSE, G: MOMMY) and the new alternative AP5 (HAPPY, E: MOMMY AND BUNNY) share the case

MOMMY, and because P1 (EXIST, BUNNY) and the new alternative AP5 (HAPPY, E: MOMMY, BUNNY) share the case BUNNY, we would have to draw our evolving map such that both elements of coherence could be shown.



As can be seen, the map changes shape as the coherence in the surface text changes, providing one with a visual display of the surface text coherence.

To carry this even further and for purposes of contrast, let's assume that Sara concluded her text with, Father threw up. A propositional analysis of this sentence would render: BP5 (THROW UP, FATHER). Since (THROW UP, FATHER) shares no cases with (PICK FOR, BUNNY, ROSE, G: MOMMY) nor (EXIST, BUNNY), we would have to map it showing no tie:  BP5. This does not mean we could not make it coherent or tied to the other text portions, but it does mean we, the reader, must do the tying mentally and that whatever coherence there may be, it does not express itself in the transitivity relationships expressed in the surface text.

A coherent text need not be one that has all of its mainline propositions tied to each other, but Margaret Atwell (1980) has found that surface texts which are judged by readers as being well-written have a higher degree of local coherence (.90+ or -) than do texts which judges perceive as less well written (.76+ or -). Mapping texts in this fashion, then, gives one a look at the local coherence expressed in a surface text.

When we examined the language experience stories which 3, 4, 5, and 6-year olds produced for us, we found that the older the child the more likely we were to receive a story consisting of multiple propositions. Twenty-five percent of our 3-year olds produced such stories, 50 percent of our 4-year olds, and 75 percent of our 5 and 6-year olds. When we mapped these stories we found that all children were addressing issues of local coherence in their texts. By examining the proportion of mainline propositions which were tied to each other in the text base we found this ranged from .17 to .46 for 3-year olds to .25 to 1.00 for 4, 5, and 6-year olds. In looking at a child's ability to handle coherence across story tasks, we further found that this ability was context specific depending upon the task and story writing conditions.

By looking at the maps produced one can tell whether global coherence is expressed in the surface text or whether it must be inferred. Expressed global coherence means that there is a proposition in the text to which all other propositions are somehow tied. Inferred global coherence means that there is no single proposition which is expressed to which all others tie, but that one can easily create a proposition which might serve this function. In Matt's text, "My Trip to the Zoo" would be such a unit. It must be remembered, however, that because of the conditions surrounding the production of Matt's text, no such proposition needs to be expressed in the surface text. For this reason its absence cannot be taken as indicative of a lack of surface text organization. In fact, what appears to be lack of organization from one theoretical position is evidence of orchestration and growth from another.

Sometimes when you ask young children to dictate a story, they decide not to do so, electing instead to have a conversation, play, or do other things. Of the 48 children we asked to dictate a story in our Indianapolis study, 46 engaged in story dictation at some point during the event. When we looked at how global coherence was handled by the children in their language experience stories, we found only four stories contained an explicit macroproposition to which all other main line propositions tied. For 12 of the stories one could infer a macroproposition. This proposition was implicit rather than explicit, much like the proposition one can infer for Matt's text. Thirty of these stories were contextually dependent meaning that in order to make sense of the surface text created, a reader would have to be familiar with the context of story dictation in terms of the objects used or the actions and antics of the language user. Further, when we looked at the global coherence of the texts children created across story composition conditions in both reading and writing (dictate and read a language experience story, write a story, read a story), any individual child's ability to handle global coherence was found to be a function of the story condition and the topic selected.

While this procedure for studying coherence is not without its conceptual faults, we have found it useful for studying variation among the surface texts produced by young writers across a variety of contexts. Generally, what we have found is that coherence is not a monolithic skill in writing. It is not true that language users either have it or don't have it. Under certain conditions the surface texts which children produce express more or less coherence. Even more importantly, our data suggest that young children are dealing with these issues and, in the process of using language, discovering what coherence means for texts within a variety of contexts.

Recently, Stephen Kucer (1982), in a study of college students' writing, also demonstrated that the amount and kind of coherence expressed in the surface text is more a function of the conditions under which the text is produced than it is an expression of linguistic capability. Certain settings not only allow, but also encourage children and obviously adults to test other language hypotheses. These hypotheses range from pragmatics, to graphophonemics, to syntax, to other dimensions of semantics, and seem affected by topic choice, background information, and task conditions. In its specific detail, then, the amount of coherence expressed in a surface text is a function of the setting in which the writing tasks place and the intentions and assumptions of the language users involved. These aspects of textual organization will be discussed in subsequent sections of this report. As will also be explicated in subsequent sections of this report, linguistic coherence is but one dimension of textual coherence.

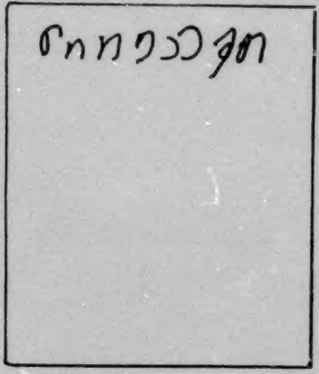
From an organizational perspective these data demonstrate both the schematic complexity and the schematic sophistication which young children bring with them to writing at the time when most formal writing programs begin in this country. These data question many current instructional assumptions about the young child's writing ability, as well as the theoretical grounds on which these assumptions rest.

From an interdisciplinary perspective, the decisions which children make in reading and writing from age 3 through age 6, are not only organized, but laced with both personal and social organizations. This interplay between personal and social organization in the evolution of literacy is universal. Randomness and language are inimical concepts. It should not surprise us to find that it neither characterizes our writing nor that of the 3-year old.

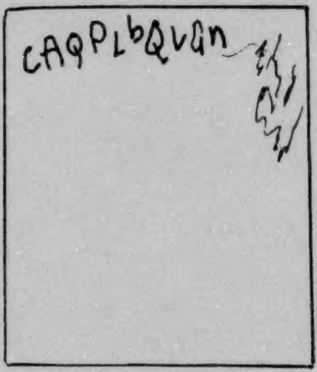
2.2 INTENTIONALITY

By 'intentionality' we refer to an expectation on the part of language users and learners that written marks are cultural objects, or signs, which signify. Even before children have determined what a particular written mark may signify, their responses reflect a basic understanding of written marks as cultural objects which have a sign potential.

- *Kibi, age 5, when asked to write, made a series of marks on the paper. Kibi looked up quite pleased with her performance and asked, "What did I write?" Kibi's question suggests that she sees written marks as signs which signify meaning to other language users. While she does not have a knowledge of how one produces specific marks to sign specific meanings she does understand that these objects are signs which signify. She has, in other words, accessed the deep structure of literacy without controlling in any precise way the surface structure.*



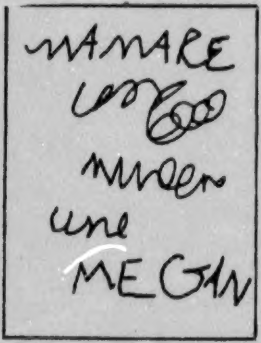
- *Angela, age 5, was writing a letter and accidently made a series of marks on her paper during the process of waving her pen as she thought about what to write. Noticing the marks she asked, "What do these say?" What is particularly interesting about Angela's behavior is the assumption she makes that any written marks sign meaning. While this instance demonstrates the pervasiveness of the assumption of intentionality even when the genesis of such marks was not intentional, it should be noted that it is not clear whether Angela really understood she had accidently made the marks herself.*

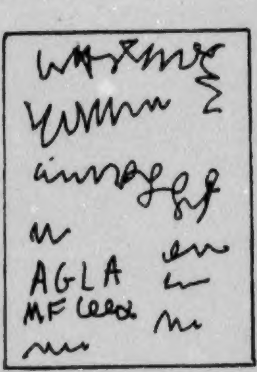


- *Frank, age 5, was shown various pieces of envrionmental print and asked what they said. Frank's responses included, "Mints" for Dynamints, "Kroger" for Kroger Eggs, "Blocks" for Lego, "Street" for Indianapolis, and "Don't Know" for For Sale. What is important to understand is that all of these responses are governed by an assumption of intentionality, even his "Don't Know." What "Don't Know" means is* *that Frank, in having studied the cue complexes available in this setting, does not recognize them as immediately identifiable. For example, when shown the Evil Knievel Chopper box and asked what it says, Frank initially responded, "Don't Know." By our asking, "What things do you see that help you know what this says?" Frank buys himself more time to pursue our first question, and responded, "I think it says 'motorcycle'."*

- *Greg, age 5, received a letter from Linda and was asked to read it. Greg initially responded, "I forgot what it said." After a pause he read: "Dear Greg, I want to go back to school with Greg Winston and come and work with you again too."*

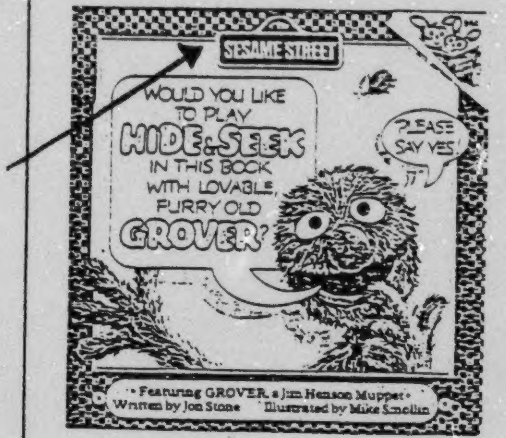
- *Megan, age 4, wrote a personal letter and a story on two separate sheets of paper using a wavy up-and-down script to place-hold her texts. When asked to read her letter she read, "Dear Mary, I hope you bring me here every day, The end. Megan." When asked to read her story Megan read: "Once upon a time there was a ghost. Three ghost family. One day they went out for a walk. They honked the horn cause they saw Mrs. Wood and said 'Hi,' then they went back to Mrs. Corners and they honked the horn and sa-said Hi. The End." While the physical products which Megan produced do not look like a letter or a story, given our conventional eyes, it's important to understand that for Megan these sets of markings had particular meanings which closely correspond to our conventions for how the print in letters as opposed to the print in stories operates.*





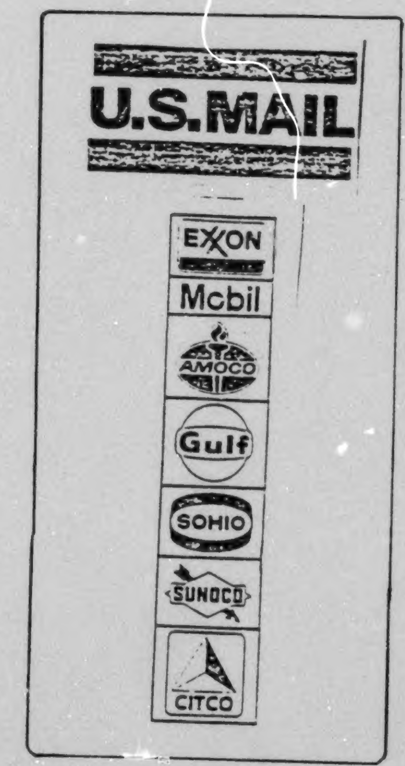
While language users and learners may not know what a written mark may specifically signify, to suspect it to be a sign purposefully created and existent for the purpose of communicating something to somebody is to hypothesize intentionality. Intentionality is such a pervasive assumption reflected in children's responses that instances which may initially appear to violate this premise merit special examination.

- *Robert, age 3, when shown the city road sign Indianapolis and asked what it said, responded, "Sesame Street." Robert's response demonstrates that his assumption of intentionality led him to a cognitive search of a context in which to make sense of what he perceived. Since Sesame Street signs are more familiar to Robert than Indianapolis* *city markers, his response is understandable. Given the fact that the Sesame street sign serves as a logo and appears in all materials which that show sponsors--including all Sesame Street book covers--the responses "Book" when shown the Indianapolis city sign, given by no less than 14 of the 48 children in the Indianapolis study, is equally understandable. In the Bloomington study, 7 of the 24 children, when shown the Bloomington city sign, responded, "Book." While we might initially infer that this latter response was graphophonetically driven by the child's recognition of B's and O's in the word* ***Bloomington,*** *such an interpretation would suggest semantic intent was used as confirmation, not initiation of the response; Robert and our Indianapolis informants show this clearly was not the case.*


SESAME STREET
WOULD YOU LIKE TO PLAY HIDE & SEEK IN THIS BOOK WITH LOVABLE, FURRY OLD GROVER?
PLEASE SAY YES!
Featuring GROVER a Jim Henson Muppet
Written by Jon Stone
Illustrated by Mike Smollin

Book Cover

- *Benjamin, age 4, when shown the U.S. Mail logo and asked what it said, responded "Gas." Other children under this condition responded "Oil station," "Oil," and "Gas Station." While our initial impression of the relationship between* ***U.S. Mail*** *and* ***Gas*** *may be one of nonsense, from the child's vantage point, the red, white, and blue color similarities on the logos, the limited amount of print, the style of print, as well as the organization of the print on both the U.S. Mail gas station logos make Benjamin and the other children's responses logical and reasonable. In this regard, we have found, children's responses can help us understand what semantic options are available in the setting. Further, it is the same cognitive process, driven by intentionality, which undergirds language users coming to a culturally "correct" decision as it does their coming to a culturally "incorrect" decision. This understanding is important as*


U.S.MAIL
EXXON
Mobil
AMOCO
Gulf
SOHIO
SUNOCO
CITCO

it means "correct" and "incorrect" have little if anything to do with our understanding of the cognitive processes involved in literacy use and learning.

- *Boyd, age 3, was asked to draw a picture of himself. During the completion of this request, Boyd turned to the researcher and asked, "Do you like Boyd's picture?" The researcher assured him she did, but given his question and the nature of his markings, decided she had best clarify the task indirectly and so said matter-of-factly, "That's a picture of Boyd." Boyd responded, "Yep. This is Boyd's picture." What is significant about this instance is that it demonstrates that our intentionality (draw a picture of Boyd) and Boyd's intentionality (here is Boyd's picture) are often quite different and correspondence cannot simply be assumed.*

To say that written language users and learners approach print with an expectation of intentionality is to say more than that they see it as purposeful or even meaningful, however. Embedded in this notion, also, is the expectation that combinations of these written marks as well as the relationship these written marks have to the context of situation in which they are found will contribute to the attainment of a unified meaning. Intentionality governs the responses of all written language users and sets into motion cognitive search strategies whereby literacy and literacy learning are propelled.

- *Alison, age 4, when shown Kroger Cottage Cheese, typed out in primary type on a 3 x 5 card and asked what she thought it said, responded: "Well, it should be the alphabet, but it doesn't start with A." Alison assumed here not only intentionality, but also that what was shown her would be personally meaningful. The cognitive operations she engages in are universals which undergird both successful and unsuccessful instances of the process.*

- *Chris, age 3, along with his father and aunt, was on a camping trip. As they were going back to the cottage to put Chris down for a nap, Chris' aunt spotted a snake. Trying not to sound alarmed and thereby excite Chris so he couldn't sleep, the aunt calmly said, "Tom, do you see the S-N-A-K-E?" while continuing to walk with Chris to the cottage. Two hours later, after his nap, Chris bounded out of the cottage and said he wanted to see "the A-B-C." What do you think an "A-B-C is?" his aunt questioned. "A snake," Chris replied.*

- *Alison, age 3, was accompanying her parents on a trip to Indianapolis zoo. Seeing the freeway signs overhead, her father asked, "Alison, what do you think that says?" Alison responded as if reading the overhead markers, "It says . . . uh . . . Daddy . . . turn . . . right . . . here . . . to go . . . to . . . the zoo."*

- *Kara, age 6.5, brought home a basal reading story to read from school. The text read, "I want to hide here. I want to stop here. I want to eat and eat . . ." At this point Kara stopped reading and turned to her mother and said, "God! Does this make sense to you!?!"*

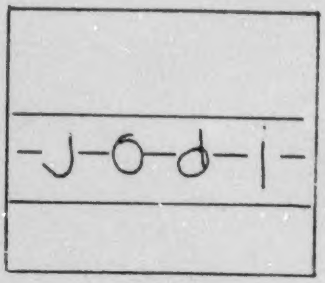
- *Alison, age 3, and her parents went to Baskin Robbins to get an ice cream cone. Alison's mother pointed to the flap on the trash can with the letter P-U-S-H etched in the flap and asked, "Alison, what do you think this says?" Alison responded, "Push." Alison's mother questioned, "How did you know that!" As she ran her index finger in the grooves forming each letter, Alison responded, "Cause it's got all the right letters."*

Language users assume that the various signs in a literacy event are intentional, non-random, and together operate to convey a unified meaning. Further language learners seemingly operate under the assumption that it is not beneficial to them over the long haul to ignore or disregard objects perceived as signs. Together these assumptions cause the language user to actively search for unity and propel the active testing of language hypotheses by language users and learners.

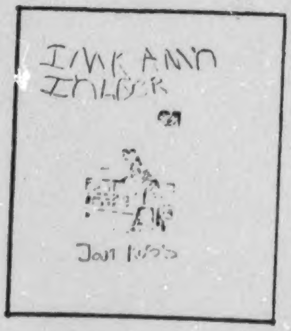
- *Jill, age 5, was asked to read or pretend to read the book, The Ten Little Bears. In this book a predictable structure is set up whereby page by page another of the bears leaves home to participate in an adventure. This structure is also conveyed in the pictures which show fewer bears on each page. Jill began her reading by making up a story about a group of bears who go on various trips. As she created her story she noticed the repeated at-home pictures and visibly counted the bears. Having thus discovered this structure Jill is led to building it into the text she creates. This decision leads her very close to the surface text structure. Her line: "Then five little bears stayed home." The actual story line: "Then five little bears were at home."*

- *Charles, age 4, was shown a box of Jell-O pudding and asked what it says. Charles responded, "Jell-O," but then asked, "What's that little mark mean?" pointing to the registered trademark beside the word Jell-O. While neither we nor Charles pursued his question,* *implicit in it is an assumption that this mark is a sign which signifies. Later when shown the Johnson & Johnson Band-Aid box and asked what it says, Charles responded, "Band-Aid." Then seeing the registered trademark beside the word Band-Aid reflected, "There it is again." Once again while neither we nor Charles pursued his observation, the fact that he made it suggests that having once recognized it as a sign, and assumed it was intentful, Charles is actively searching for its meaning. By collecting instances of its appearance, he will make an inference and test a hypothesis. Two related observations are important. Language learners, like Charles, always seem more interested in what they haven't sorted out than what they have. It does not surprise us that Charles focuses on the trademark symbol, this being his latest language discovery. Secondly, when we began this study we were concerned that the print in the print setting be big enough for young children to see. Experiences such as this led us to realize the eye sight of young children is never as serious an issue as beginning reading and writing programs assume. In fact, we have some evidence that lined school paper which forces the child to write with a certain sized print actually distracts the child's attention from the real issues in literacy learning.*

- *Jodi, age 6, was asked to write her name "between the lines" on some hand drawn school paper as part of a test given to judge reading readiness in first grade. Noting the horizontal dotted line running down the center of the line she was to write her name on, Jodi assumed its role must be to separate the letters of her name. Ever so carefully, she wrote J in the space between the first two dashes, O in the second, D in the third, and I in the fourth space.*



Jodi was an extremely competent young writer, having had 3 years in Heidi Mills' preschool program in which she had had extended opportunities to interact with books and select paper from a writing center appropriate to whatever writing she wished to do. Encountering school paper for the first time, she rightfully assumed the markings down the center of each line were intentional and decided they must be to separate the letters in writing. While this made her name look strange, this was after all first grade.



The assumption of intentionality characterizes our current written language discoveries just as much as it does our very first explorations with print. It is these assumptions of non-randomness, relative to context and to any and all markings encountered, which drive literacy and make written language learning sometimes appear effortless. Understanding intentionality is fundamental to understanding the sociolinguistic and psycholinguistic activities involved in literacy and literacy learning.

We are not the first to see intentionality as a universal pattern reflected in all instances of literacy learning, though we may be the first to see unconventional responses as instances of the phenomena. Every protocol example in this volume reflects this assumption on the part of the language user. If it were not so fundamental to understanding literacy, its pervasiveness alone would in itself be boring. The review of literature, discussion of selected protocols and description of analysis procedures which follow look more closely at some of these patterns of intentionality in our data for purposes of tracing the conceptual and historical roots of this notion and discussing its significance to understanding and rethinking literacy. To illustrate that the concepts we discuss in this report, like 'organization' and now 'intentionality', are applicable to any piece of reading and writing data, organizational patterns which are present in the new protocols we introduce in the following section will be referenced for the reader's benefit. Organization, you will recall, was the topic of Section 2.1, which preceded this one.

2.2.2 INTENTIONALITY: INTERDISCIPLINARY PERSPECTIVES

The past 15 years have been heralded as a period in which phenomenal advancement has been made in understanding the reading and language process (Pollock, 1979; Shuy, 1979). To the extent that this advancement is real, it may well be attributable to discovery of the centrality of the semantic system in not only reading (Goodman, 1967; Rummelhart, 1977; Smith, 1971, 1978; Adams & Collins, 1978; Kintsch & van Dijk, 1978; Frederickson, 1977), but language and language learning (Brown, 1973; Halliday, 1973, 1975; Hymes, 1967; Shuy, 1979). Given a perspective which only the passing of time can offer, the past period of research in reading and related fields might well be seen as discovery of the centrality and the complexity of the semantic systems of language. To date seven semantic systems have been identified (Halliday & Hasan, 1980) of which transitivity relationships (Fillmore, 1976) and cohesion (Halliday & Hasan, 1976) have received the most study by cognitive psychologists and others.

The importance of intentionality to understanding the cognitive processing operations involved in reading comprehension has only very recently been re-emphasized by Schank (1980). In attempting to get a computer to simulate human comprehension, programming the computer to perform advanced operations on the semantic base proved insufficient. Frustrated in this effort, Schank reported that he has his colleagues needed to develop a special program called "What's Your Point?" in order to get the computer to prioritize propositions and reach conclusions similar to those made by language users when reading.

The net result of work in this area across disciplines has led to the articulation of a functional perspective on language and language learning (Bates, 1976, 1977, 1981); Grice, 1975, 1978; Searle, 1969, 1975, 1979). Functionalists argue that the very essence of language is meaning (Bates, 1976, 1977, 1981; Halliday, 1973, 1975; Goodman & Goodman, 1979). They argue that language did not develop because of one language user, but because of two who had as their purpose communication. Halliday (1973), as a result of a longitudinal study of his son, describes the whole of growth and development in language as "a saga in learning how to mean."

Vygotsky (1978) sees one of the crucial points in written language learning as being that moment when the child intends, and then makes marks on the paper to placehold that intention. He characterizes this crucial period in literacy by a formula which reads meaning over object (meaning/object), and contrasts it to an earlier state which he characterizes as object over meaning (object/meaning). This latter formula is illustrated by a child making a squiggle on a paper (object) and only later deciding to name the mark something (meaning), for example, "a snake." Vygotsky's formula necessitates the naming of the representation before it is written to be considered an instance of literacy. If naming is not done before production begins then Vygotsky assumes that intentionality is missing. The young child's question, "What did I write?" after putting marks on the paper signals that he or she has inferred that the marks made should mean. Vygotsky's insights, while important, need extension.

Given two sets of corrobative data--the children's reading of what they had written in comparison to what they had been requested to write; and the in-process verbalizations of children made during the process of writing in comparison to the responses made when asked to read what they had written--all children studied in this program of research wrote with the intent to mean. The complexity as well as the significance of this finding for the study of literacy is best seen when one analyzes the in-process behaviors and verbalization of our young language users involved in written language encounters.

Beth's uninterrupted story writing behaviors will be analyzed to demonstrate her 'intentionality' in writing. Beth's final product is shown in Figure 15. The step by step process data in Figure 16 which

Figure 15. Uninterrupted Story Writing: Beth (Age 5)

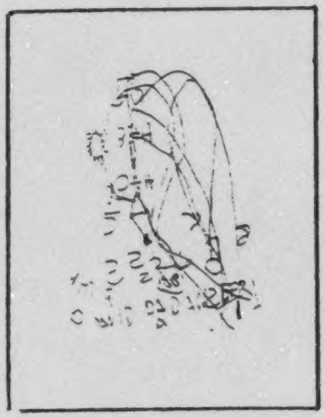
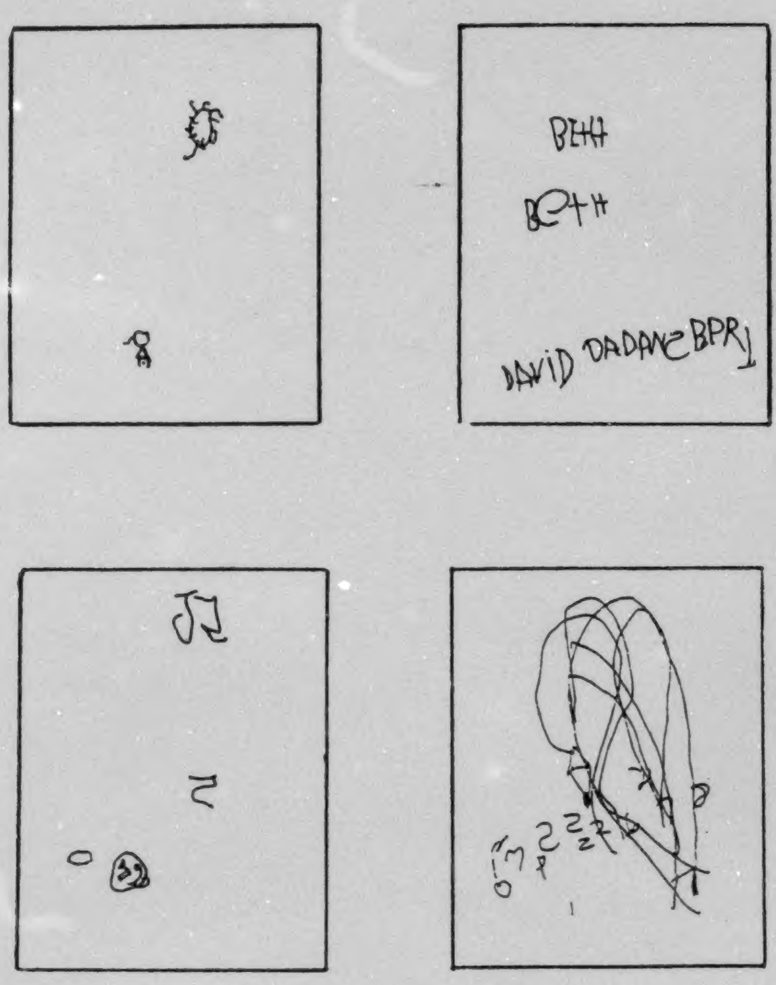


Figure 16. In-Process Writing Data--Beth (Age 5)



correspond to the verbalizations involved in the creation of this product is made possible by stopping the videotape and reproducing, by use of a light table, the product produced at each of these points. The correspondence between the demands of the task, the in-process verbalizations, and the child's subsequent reading of her story, constitute what was considered evidence of intentionality in this study.

(Figure 16--Sample A) Beth began by drawing a picture of a sun and a house. (Figure 16--Sample B) Beth writes her name and then announces "I can write my name another way" producing the second spelling of Beth with an altered E form (located in center of page). After this, Beth writes David Dansberger announcing it to be her brother's name. She decides also to write Jeff, her other brother's name, but decides her J doesn't look right and says, "That doesn't look right!" After this announcement she tries to erase her J with her finger. Next she draws a picture of David and announces as she does so, "This is David." She begins to draw Jeff but remembers she didn't finish his name and so decides not to finish his picture correcting herself at this point by saying, "Oops!"

(Figure 16--Sample C) Beth next decides to write her age "5." Not pleased with her product she immediately tries again (see "5" in middle of page). (Figure 16--Sample D) Beth pauses for a moment at this point. She then begins saying and writing her numbers in backward order: "8," "7," "6," "5." Not pleased with her 5 she makes several attempts to make an improved one saying "5," "5," "5," "5," and produces the array of forms shown here. Finally shrugging her shoulders she continues by saying and writing "4," "3," "2," "1," "Zero," "BLAST OFF!!!"

At this point Beth hastily sketches the rocket you see in the middle of the page. Complete with sound effects she terminates her picture story by adding the streamers coming out of the top of the rocket and flowing down the page saying as she does so, "VAROOM!! VAROOM!! VAROOM!! VAROOM!"

At this point Beth announces she is done and the researcher asks her to read what she has written. Beth says, "Well, this is a story about what me and my brothers do at home, play rockets and things like that."

While this "reading" has the psychological distance characterizing a retelling, it is important to note that in light of the intent as she expresses it, each and every mark had as its function the placeholding of components of her story. While the surface level organization of the product may look random (Figure 15), the semantic features of her markings at a deep-structure level were intentional. Not only were her markings intentional, but these markings were organized during production in story structure form. Notice, for example, Beth begins with a setting (sun and house), introduces characters (herself and her brothers), and relates an organizing event (play rockets and things like that) around which her story coheres. Despite surface-structure form, her story clearly contains a recognizable story grammar (Propp, 1928; Stein & Glenn, 1978; Applebee, 1978; Thorndyke, 1977; van Dijk, 1977) which we can only conclude, given the available data, was intentionally orchestrated and placeheld via a highly ordered set of in-process markings.

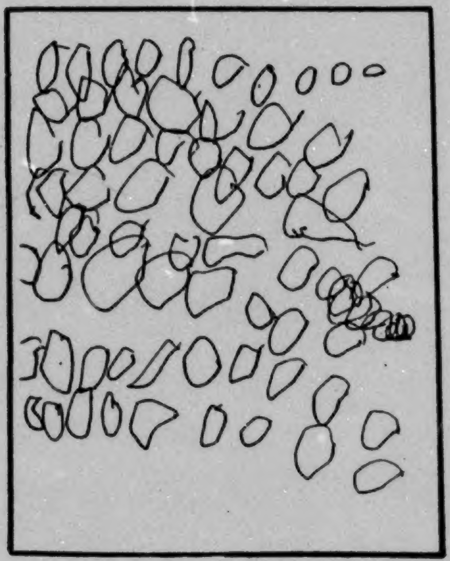
Beth, the youngest of 6 children, is a 5-year old without preschool experience. Although her behavior and story are particularly good examples illustrating the complexity and sophistication with which children orchestrate intentionality in their written products, all children, as stated earlier, demonstrated intentionality in their writing.

Latrice, age 3, who produced what from a conventional perspective might be viewed as the most primitive markings of all children studied, began by saying she was going to "make a dog," attempts to do so, but says she can't and decides to make "a Mickey Mouse." Later, when asked to read what she had written, she said she had written "a dog and a Mickey Mouse," responses which fall nicely within the semantic field of the intent signaled by her speech during writing (see Harste, Burke, & Woodward, 1981, for a further description and analysis of this instance of writing).

As a related aside, it is interesting to note that oral speech during writing not only signaled intentionality, but acted almost as a plan of writing action. In this regard, we, like Vygotsky (1978), noted that almost inevitably speech produced in the process of writing signaled a plan of action either in abatement or in initiation. Speech, then, seemingly served an organizational function in writing. The hand seemed to follow as if subservient to decrees of oral intent. Rather than a tool for thought, speech in the process of writing acted metaphorically as "intention director."

As an even further related aside, one cannot help but note that speech during writing served as its own sign in a semiotic sense (Singer, 1980) which seemingly triggered the next semantic unit to be written. In part this is evident in the non-random and often ordered semantic field in the written product. Rarely does one find it difficult to infer the class around which specific elements in the written products of preschool children cohere. Latrice is a noticeable exception. More typical of the data we received is Shannon, age 3, who said, for example, as she produced the respective lines in the product shown in Figure 17, "This is Anita. This is Shannon. This is Robin. This is Angel. This is Daddy. This is Mommy." In analyzing her product, the cohering elements are initially "playmates" and logically, given the bridge of her sisters, "family members." The interesting process feature of this list, however, is that in having come up with the first item, that item acted as a sign which seemingly stimulates the remaining coherent elements in this set. To the extent that this is a viable theoretical formulation for the phenomenon observed, these data suggest that intentionality signs intentionality and that decisions as to

Figure 17. Uninterrupted Writing--Shannon (Age 3)



intention are not isomorphic but orchestrated through a process of unlimited semiosis (Eco, 1979, 1976, 1979, 1980). Given the recent cognitive processing model of Flower and Hayes (1980, 1981) for writing, this phenomenon merits further study as it may explain the process by which plans come to be embedded within text production and why the dominant product characteristic of such a process is not only intentionality embedded in intentionality, but unity across plans and subplans.

Given the model of language which this research has driven us to hold, intentionality is as much a part of written language production as it is of oral language production. This statement assumes a common language process undergirding all expressions in language--reading, writing, speaking, listening--as well as a common linguistic data pool (Burke, 1977, 1980) created and made available regardless of the language expression through which a particular linguistic insight is made.

In written language as well as art literature intentionality and conventionality are often confused. The assumption being that in order for written language to be intentional it must be conventional. From our data, non-conventional markings on paper could not be construed as unintentional in meaning.

One of the definitions of a scribble offered in A Dictionary of Reading and Related Terms (Harris & Hodges, 1981) reads, "to produce meaningless written marks" (p. 287). Given a functional look at the written efforts of children, such a definition falls far short of reality, and seemingly confuses conventionality with intentionality. To the extent that more successful writers may not always write what they intend, though what they elect to write is done in conventional form, this confusion may prove as problematic in our attempts to understand proficiency as it does in our attempts to understand the evolution of literacy.

2.3 GENERATIVENESS

2.3.1 GENERATIVENESS: THE YOUNG CHILD AS INFORMANT

In use, language is an open system which permits the maintenance and generation of meaning. To say that written language is an object which functions as a sign is to suggest that the system is infinitely open. What the language user takes the sign to mean is a function of his or her purpose and background of experience. Language as a sign can sign different things to different people, or even different things to the same person on different occasions.

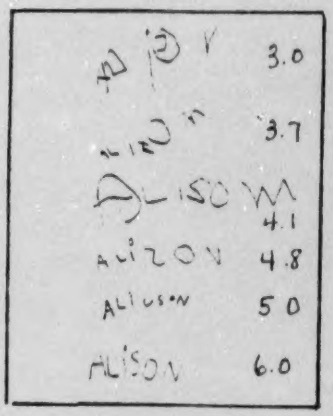
- *Ben, age 4, was shown a Crest toothpaste carton and asked what it said. He responded, "Toothpaste." Later when asked, "What else can you tell me about this?" Ben responded, "Well . . . we use Crest at our house."*

  For Ben the letters C-R-E-S-T signed not only "toothpaste," but, we find out later, also "Crest," the response we might have expected to our initial question. For Ben as for us the letters C-R-E-S-T sign many things simultaneously, including "cavities," or hopefully the lack of such (as it did for Tyler, age 3), "flouride" (Heather, age 3), and "toothbrush" (Shannon, age 3). To say that Ben's and these other responses are "wrong" is to fail to demonstrate an understanding of the generativeness of language as an open sign system.

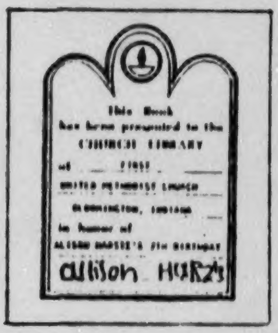
- *Nathan, age 3, was shown a box of Jell-O pudding and asked what it said. His response, "It's got sugar in it" indicates to us what J-E-L-L-O signs to him given the nutrition lessons he has obviously learned at his mother's knee. While General Foods might not be pleased to know that J-E-L-L-O signs "sugar product," it is the openness of language which keeps it alive and ever pertinent. The amount of time an object like J-E-L-L-O has been around and the amount of effort General Foods has devoted to establishing a better meaning is, in itself, no guarantee that language users will give the interpretation that General Foods desires. Despite our or their desire to close language, it remains an open sign system.*

The generativeness of language does not stop once convention is understood. It is the generativeness of language which propels our learning of language, about language, and through language and makes reading and writing real and educative experiences in their own rights.

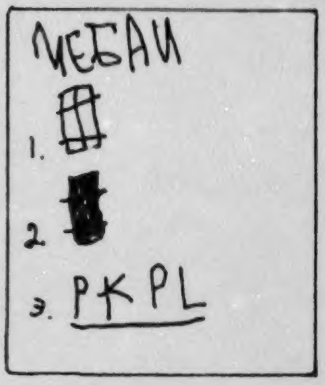
- *Alison could write her name more or less conventionally from age 3 on. At age 5, however, she wrote her name A-L-I-S-O-N. When asked why she was writing her name this way, she said, "Just because." After two weeks she resumed the conventional spelling of her name, A-L-I-S-O-N. At 7 years of age, she signed the nameplate on a book that was given to the church library A-L-L-I-S-O-N. Upset with this decision, since the book was to be a permanent contribution, her mother questioned, "Why did you write your name like that!?!" Her response, "Well, you can you know . . . Some people write Alison that way!"*



What these examples illustrate is that the generativeness of language does not stop once convention is reached. As Alison learned more about language--how the sounds of language mapped onto graphemes and what options were available in this mapping process--the generative potential of language, including her own name, increased. Rather than demonstrate what she knew, or being "correct," Alison is more interested in testing her latest language discoveries. It is this process, coupled with the generativeness of language--not the drive to convention--which governs literacy and literacy learning. As in language, and thought, there is, thankfully, growth beyond convention.


This Book
has been presented to the
CHURCH LIBRARY
allison

- *Megan, age 4, was asked to write anything she could write. At one point rather than write she drew a picture of a present replete with a ribbon. In rereading what she wrote she said, ". . . and this says 'present'." Having said this, she paused, reflected a bit, and said, "No, it doesn't!" Snatching the pen again she crossed out her picture and wrote P-K-P-L declaring, "Now, that says 'present'."*



This example illustrates that with repeated opportunities to involve herself in the process over the course of this event, through art and later through reading and writing, Megan is given an opportunity to take a new stance and orchestrate more of what she knows about writing as a process. The generativeness of the process does not only lead to divergency in language, but convergency.

From a cognitive processing perspective, engagement and reengagement in the process increases the opportunities language users have for self-discovery of the generativeness and self-educative aspects of language in use. In this sense not only language, but the process of language use, is in itself generative, buying the language user time, allowing him or her to shift stances psychologically, permitting orchestration of what is already known, and allowing him or her to organize the evolving text. This process occurs during both reading and writing and involves all communication systems.

- *Charvin, age 4, was asked to dictate a story using the objects he had selected from a box of toys. He dictated, "It's a horn. It's a baseball bat. This is my choo-choo train. It blows up." When asked to read what he had written, Charvin read, "This is my baseball bat. This is my horn. It blows up. This is my choo-choo train. This is my base- . . . a . . . I don't know." At this point the researcher commented, "You're reading your story very nicely." Given envouragement, Charvin began reading again, "This is my baseball bat and it hits balls. And this is my choo-choo train and it . . . (pauses) . . . I don't know how to read."*

While complex, this example illustrates that Charvin simultaneously explores both the chance and generative functions of written language during this event. His initial reading includes all of the original propositions in his dictated text. In rereading he not only builds off of these propositions, but discovers he has more to say about each and adds descriptive statements, "This is my baseball bat and it hits balls." While this process scares him into concluding that he doesn't know how to read, his very behavior belies this fact and indeed demonstrates engagement in and exploration of the key cognitive processes and benefits of literacy.

Charvin begins by inventorying what he sees as available to him in this setting. This act is in itself generative in that it sets up implicit contrasts which lead Charvin to the discovery of what he *might say about this concept as opposed to another. In rereading, this process continues with the result being the addition of descriptive statements for items inventoried. In our study we not only found this pattern of inventory-description operating in writing but in reading with the result being that once descriptive statements were generated a narrative or expository text more in line with our expectation of such texts resulted. It's important to understand that what repeated opportunities to engage in the process with this text--first as a writer, then as a reader--offered Charvin was opportunities to both work through the process and simultaneously discover its generative and self-educative benefits. Also illustrated is the importance of a supportive environment in relationship to this engagement and growth.*

- *Jason, age 5, selected a spoon, a toy suitcase, and some play money to use in telling a story for dictation. Jason began by dictating, "Dollar. Spoon. Case." Then as much to himself as to the researcher, Jason asked, "Do you know what you do with these?" Without waiting for a reply, Jason continued his dictation, "You take the spoon and you dip it in chili and cereal and you eat it. You take it (suitcase) for some money to go to the store. Boy. Girl. Money. Case. Spoon." Like Charvin, Jason mentally begins by inventorying concepts he sees as available to him in this instance. His inventorying activities serve as a heuristic for comparison and contrast which leads him to discover that one of the things he knows is that you do different things with each of these objects. From here he begins to generate descriptive statements and is led in the process to tying and weaving these concepts together into a "story." Jason's reading and rereading contain all of the propositions in his original story with the only difference being that his "story" is now much tidier. "Spoon. Case. Dollar. Take a dollar to the bank. Take a case to Chicago. Dip the spoon in chili. Eat the chili."*

  It's important to note the various psychological stances Jason takes during the course of this event. During dictation he's initially a participant using language to get on with dictation, then, by asking his rhetorical question, he is suddenly a monitor looking at what he has dictated in light of what he knows, and finally then he's a participant again. Just as asking his rhetorical question allowed him to switch stances during dictation, so asking him to read affords the same opportunity and he again takes advantage, only this time becoming an editor. His final text, the result of the generativeness process itself, while probably not much of a story by our definitions of well-formedness, has parallel syntactic and semantic structures.

- *Eugene, age 6, dictated a story much like that of Jason's: "Money. I like money. Ice cream have a spoon. Doctors have a suitcase." Like Charvin and Jason, Eugene too mentally follows an inventory-*

descriptive text generating process. In rereading Eugene maintains most of his text, but edits his last two lines to read, "Ice cream goes with a spoon. A doctor needs an suitcase."

- *Misty, age 4, follows the same process but uses a different strategy. She initially selects objects to tell her story with, but rather than deal with the objects as what they are, assigns them character roles. The Play School person becomes 'Raggedy Ann'. The toy elephant becomes a 'big bad wolf'. Having made these decisions, her text begins, "Raggedy Ann. This story is about a big bad wolf . . . "*

- *Heather, age 3, follows a strategy similar to that of Misty, seeing her objects as candy and more generally as 'food'. She dictates: "Candy. Mints. Trick or Treat. They go driving. They go hunting. They going to drive down the spoon. I like milk. I like cottage cheese . . ."*

  While Heather's "story" seems to go nowhere in particular, the inventory-descriptive generative sequence is shown. As Heather dictates she acts out her story by manipulating the objects she selected. Play in this instance seeming to serve Heather the same benefit Jason's rhetorical oral question offered him. Psychologically these moves allowed the language user, in both instances, to take a new or alternate stance with the result being the generation of text.

- *Latrice, age 3, was asked to read or pretend to read the book, The Ten Little Bears. She began by identifying items in the pictures she recognized, "There's a table . . . a chair." From here she moves to simple description, "He's driving" and proceeds in this fashion throughout her reading of the book. Here, again, we see this inventory-descriptive pattern reappearing.*

- *Taisha, age 4, was also asked to read or pretend to read the book, The Ten Little Bears. Unlike Latrice, she never moves beyond inventorying, though her inventorying is much more extensive than is that done by Latrice, "A fire truck, bears, elephant, airplanes, truck, bear, elephant, rabbit, bubble gum, spoons, fork, shoes, mixer, hammer . . . "*

  This inventorying behavior may well have its roots in lap reading where often parents and child together go through a book naming objects and making comments on them. It is also here, no doubt, that children learn that books contain coherent syntactic and semantic structures, for regardless of what young children elect to focus on, the text which resulted seemed to have at least the rudiments of parallel syntactic and semantic structures.

- *Brandyce, age 4, too, begins with an inventorying sort of behavior but rapidly moves to descriptive statements as the basis of her story. She begins, "Bears. These bears sitting--laying down. Going to be that . . . And he's going there to the roller coaster . . . and he's going there to the swimming pool . . ."*

- *Charvin, age 4, follows this same pattern, "Bears. Laying on the floor. Still laying on the floor. They're laying in the water . . ."*

- *Stephanie, age 4, uses a subtle combination of inventory followed by description. "One little bear . . . on the beach. One little bear, he's riding in his car. There was a roller coaster. They was in swimming . . . He's buying some candy . . . going to school . . . They're fixing supper."*

- *Sally, age 5, does not visually go through inventorying and description though the story she read reflects a similar genesis: "There was ten bears that wanted to eat but only one ated. Then the papa bear was in the sailboat and the ten little bears were at home. Then a boy went out in a car . . ."*

- *Alpha, age 5, begins with descriptive statements and continues this pattern throughout her reading. What is particularly interesting is that in this process she arrives at not only a syntactic and semantic parallel structure for her story but a final statement that ties her story semantically together. "A bear sailing in the ocean. Bears playing around. Bears driving a jeep. There's a bear riding on a roller coaster. Bears swimming. Bears jumping rope. Bears taking a haircut. Bears get candy. Bears at airport. Bears at the fire station. Bears having fun!"*

Focusing on the generativeness of language in use is not meant to deny the value or importance of the meaning maintenance functions of language, but rather, to suggest that language psychologically and sociologically is much more than maintenance as a medium in the process of literacy and literacy learning. The protocols, analysis procedures, and discussion of related literature which follow are meant to demonstrate the importance of understanding language and language use as generative processes for purposes of rethinking what's involved in literacy.

2.3.2 GENERATIVENESS: INTERDISCIPLINARY PERSPECTIVES

One of the advantages of written language over spoken language is that written language supposedly affords more precise memorability and retrievability of ideas over time and space (Goodman & Goodman, 1979). Vygotsky (1978) argues that yet another index in literacy growth and development is when the child not only intends to mean, but later when encountering that marking anew, retrieves the original intention. From the perspective of psychology this literacy feat entails the retrieval and maintenance of ideas from Time 1 to Time 2 by an individual.

The maintenance of ideas across language users in a society, that is, from one language user to another, given the previous distinction, might be thought of as 'sociological language maintenance'. It is, of course, at the level of sociological maintenance that convention becomes important. Convention is defined as a set of social rules of language use and form which have as their purpose facilitating communication (Freedle, 1972, 1977, 1980).

One's own particular rules, which may well serve a 'psychological maintenance function' in that despite their non-conventional form they serve personal memorability as well as retrievability (and must, therefore, be standardized enough to function across time for the individual at least) might best be thought of as personal convention. James Joyce's stream of consciousness writing and the punctuation system he developed began, we can assume, as personal convention, but has moved to a status of social convention via social acceptance of his work.

Understanding not only language change but the processes involved in this change is important. Language, whether on a psychological or a sociological level, serves a maintenance as well as a generative function (Goodman, 1980). Recent work in cognitive psychology has not only explicated the generative nature of reading, but in so doing explicated the maintenance and generative function of language more generally.

These insights into language are best seen when newer models of reading comprehension are contrasted with their historical counterparts. Historically reading has been viewed as a process of information transfer with the reader seen as more or less a faulty vessel. A proficient reader under the historical view was seen as someone who acquired all textually implicit and explicit units of meaning and did so without distortion or intrusion.

Newer models of comprehension have challenged this view (Adams & Collins, 1978; Goodman, 1967; Rosenblatt, 1938, 1969, 1978, 1980; Eco, 1979) and have demonstrated that readers construct a text in their heads given their reading of available signs in the graphic display (Eco, 1979; Iser, 1978; Beaugrande, 1979, 1980; Culler, 1980). Under this view, comprehension is much less precise; what a reader makes of a text is dependent upon his knowledge of, familiarity with, and interpretation of, available signs. While all readers in a given culture will come to have a good amount of shared meaning simply by virtue of the fact that they share a history of language encounters in a given interpretive community (Fish, 1980), each reading, because of the individual reader's unique experience, will also be slightly different. What a reader reads may mean more to that reader than it did to the author. The same process which leads to "less," leads to "more." It is, in fact, the generative function of language which keeps it psychologically and sociologically alive. It is the maintenance function of language which gives language psychological and sociological continuity.

Within any retelling there is not only a maintenance, but a generation of ideas (Crafton, 1981). In part this is true given the nature of comprehension, but in part it is true because a reading and a retelling is not a linguistic act but a linguistic event with each component--both the reading and the retelling--being a language encounter in its own right. Carey, et al. (1981) argue that one cannot parse a retelling in terms of whether the source was author or reader, but rather suggest that a retelling is a new event; the result of a transaction rather than a simple interaction between author and reader.

Using recent research in reading comprehension, Shanklin (1981), Smith (1982), and Kucer (1982) have developed models of the writing process which capture not only its maintenance but generative functions. Writing, like reading, has historically been viewed as a process of recording one's ideas on paper. The generative function which writing serves for the writer (Smith, 1982), while frequently discussed by writing theorists (Berthoff, 1975; Young, Becker & Pike, 1979), was noticeably absent in most formal models of writing and hence in research and instruction.

Recent work in metaphor and the cognitive processing operations involved in understanding metaphors (Ortony, 1977, 1979; Altwerger, 1982;

Strass, 1982) may prove to be viable models for understanding the maintenance and generative function of language processing generally. Altwerger's work (1980, 1981) moves in this direction by studying metaphors and how readers process them in more natural reading situations. She finds, given the processing behaviors of readers, that not only do traditional definitions of metaphor break down, but that the process underlying how readers understand metaphor is similar to how they understand portions of text not previously thought to be metaphoric. From a child as informant perspective what the reader processes metaphorically fails to coincide with what a linguist might code as metaphor in the surface text itself.

We will attempt to clarify these understandings by following a written language event through time. As part of our study of written language growth and development, we asked 3, 4, 5, and 6-year old children to select from a box of toys three objects with which they might tell a story. The story as dictated by the child was transcribed by the researcher. Immediately following transcription, the child was asked to read the story. One day later the child again was asked to read the story. Analysis of the child's first and second readings illustrate the maintenance and generative aspects of language both within and across encounters.

Dawn's dictated story, both in its original and propositional form, is found in Figure 18 (for purpose of propositionalizing the children's stories Kintsch's propositional system as explicated by Turner & Green, 1977, with adaptations by Harste & Feathers, 1979, was

Figure 18. Dictated Language Experience Story--Dawn (Age 4.3)

I'm going to buy a book of jingle bells.

1. (BUY, DAWN, BOOK)
2. (QUALIFY, (1), POTENTIAL)
3. (SUBJECT OF, BOOK, JINGLE BELLS)

I'm going to buy a paint brush.

4. (BUY, DAWN, PAINT BRUSH)
5. (QUALIFY, (4), POTENTIAL)

I'm going to buy a elephants.

6. (BUY, DAWN, ELEPHANT)
   (NUMBER OF, ELEPHANTS, TWO OR MORE)
7. (QUALIFY, (6), POTENTIAL)

I'm going to buy a car.

8. (BUY, DAWN, CAR)
9. (QUALIFY, (8), POTENTIAL)

used). When we compare the dictated story to Dawn's first reading of that story (Figure 19) we noted certain modifications in the propositional base. A portion of these modifications served a cleaning-up function. For example, whether Dawn was going to buy one or more elephants, now becomes clearly just one elephant. Modifications of this sort were classified as partially generative (PG) in that two of the original three cases making up the proposition remained intact [(NUMBER OF, ELEPHANTS, TWO OR MORE) (NUMBER OF, ELEPHANTS, ONE)].

When one compares the original story (Figure 18) with Dawn's second reading of the story (Figure 20) one sees even further modification of the propositional base. Rather than continue with her structure, "I'm going to buy . . ." she now writes, "I'm going out to buy . . ."

Figure 19. First Reading of Language Experience Story--Dawn (Age 4.3)

I'm going to buy a book of jingle bells.

M 1. (BUY, DAWN, BOOK)
M 2. (QUALIFY (1), POTENTIAL)
M 3. (SUBJECT OF, BOOK, JINGLE BELLS)

I'm going to buy a paint brush.

M 4. (BUY, DAWN, PAINT BRUSH)
M 5. (QUALIFY, (4), POTENTIAL)

I'm going to buy an elephant.

M 6. (BUY, DAWN, ELEPHANT)
PG (NUMBER OF, ELEPHANTS, ONE)
M 7. (QUALIFY, (6), POTENTIAL)

I'm going to buy a car.

M 8. (BUY, DAWN, CAR)
M 9. (QUALIFY, (8), POTENTIAL)

Figure 20. Second Reading of Language Experience Story--Dawn (Age 4.3)

I'm going out to buy a book of jingle bells.

M 1. (BUY, DAWN, BOOK)
M 2. (SUBJECT OF, BOOK, JINGLE BELLS)
G 3. (GO OUT, DAWN, HOUSE)
G 4. (PURPOSE OF, (3), (1))

I'm going out to buy an elephant.

M 5. (BUY, DAWN, ELEPHANT)
G 6. (GO OUT, DAWN, HOUSE)
G 7. (PURPOSE OF, (6), (5))

I'm going out to buy a car.

M 8. (BUY, DAWN, CAR)
G 9. (GO OUT, DAWN, HOUSE)
G 10. (PURPOSE OF, (9), (8))

thus clearly indicating that the text world to be created is one which puts the author physically at home or at some site not near where the shopping is to be done. These modifications add a whole generative level of propositions (G), the meaning potential of which was not very clearly signed prior to this revision (GO OUT, DAWN).

When Dawn's readings are systematically studied and coded on a proposition by proposition basis and marked M for proposition maintenance, PG for a proposition which is partially generative, and G for a new proposition which was generated, one has clear evidence of both the generative and maintenance functions of individual language encounters.

Dawn's story and readings illustrate one of the patterns we observed in watching young children read their language experience stories on our videotapes. That was that while often their readings were unconventional by our standards, they inevitably fell within the semantic ballpark of the dictated story. Because the oral reading often did not neatly map onto the surface text of the dictated story, we needed to develop a procedure whereby we could study what was happening semantically. The procedure we turned to was propositional analysis. By propositionalizing the language experience story which had been dictated, and by comparing these propositions to the child's first and second reading of the story, we found we could semantically track changes over the language event.

Three functional categories evolved from our comparison of propositions across the surface texts available from dictation, the child's first reading, and the child's second reading: (1) Maintenance, or proposition in which all agent categories matched (TEXT: ISA, $ (unspecified something), BASEBALL BAT: READING: ISA, $, BASEBALL BAT); (2) Partially Generative, or propositions which maintained the dictated propositional meaning but did so in slightly altered deep structure form through a change in one agent category of the proposition (TEXT: EAT, DOG, FOOD: READER: GET, DOG, FOOD); (3) Generative, or new propositions which expanded the original semantic base and involved two or three new agent categories in the proposition itself (TEXT: ISA, $, BASEBALL BAT: READER: ISA, $, BASEBALL BAT and POSSESS, CHARVIN, BASEBALL BAT where the latter proposition is completely new to the story). Taxonomic categories were worked on until a .80 level of interrater reliability was reached.

When a formal propositional analysis of the language experience stories which children dictated was made, we found that the stories contained, on the average, 14.81 propositions per story. A study of the distribution of propositional types--predicate propositions (GET, DOG, FOOD) to modifications (POSSESS, CHARVIN, BASEBALL BAT) to connectives (CAUSALITY: BECAUSE (GET, DOG, FOOD), (EAT, DOG, FOOD))--revealed no significant differences by stories across ages. Overall, of these 14.81 propositions in the dictated story, 8.2 were Maintained in the first reading. Additionally, the first reading contained 3.62 propositions which were Partially Generative and 3.3 propositions which were Generative. These data are based on our analysis of all story reading in which the language user maintained the communication contract, that is, read when we asked them to read. They include 8 stories by 3-year olds, 10 stories by 4-year olds, 10 stories by 5-year olds, and 9 stories by 6-year olds. The maintenance as well as generative aspects of reading are clearly shown and hold across all age groups.

Rereadings (second readings) on the average contained 14 propositions. Of these, 7.032 served a Maintenance role, 2.687 were coded as Partially Generative, and 4.375 as Generative. These data show the on-going maintenance and generative aspects of the language event for all age groups.

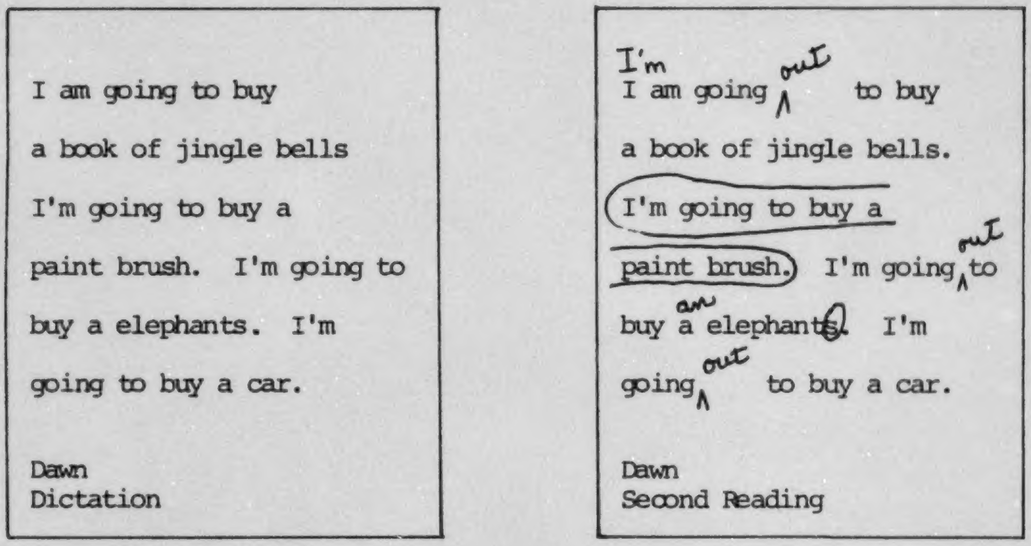
Semantically these data suggest that each opportunity to engage in the language process provides the language user an opportunity to not only maintain meaning, but generate new meanings. Reading is in its own right a language experience. What engagement and reengagement in the reading process afforded the story author was opportunities to maintain meaning, clear up meaning, and generate new meaning. The net result being that the final reading or text was a much improved document.

Further, these data suggest that young children understand and are cognizant of the semantic constraints and opportunities which exist in engagement. Theoretically these data suggest that young children are cognizant of the fact that semantic constraints are very much a part of the 'text world' created during reading. Access and reaccess to this 'text world' and with it the constraints which operate, allow them not only to both predict and generate a text which a reader might judge as quite successful, but reap the generative and self-educative benefits of literacy which can only come through engagement in the event.

Crafton (1981), building from our work, used this procedure to study the retellings of 4th and 11th grade students and demonstrated that the phenomenon observed here is found in all retellings. As a result she not only argues that both reading and retelling are language experiences in their own right, but begins to explicate under what reading conditions more or less maintenance and generation is likely.

The applicability of this perspective to the study of writing is apparent when one looks at Dawn's second reading marked using standard miscue marking procedures (Goodman & Burke, 1972). If Dawn's original text had been written, the changes Dawn makes in her second reading look distinctively like those a writer might make in editing a first draft (see Figure 21). Even deciding there are more event sequences than needed and therefore getting rid of one, as Dawn has done, would not surprise us if this were editing being done on a piece of writing.

Figure 21. Miscue Markings of Language Experience Story--Dawn (Age 4.3)



I am going to buy
a book of jingle bells
I'm going to buy a
paint brush. I'm going to
buy a elephants. I'm
going to buy a car.

Dawn
Dictation

I'm
I am going $\overset{out}{\wedge}$ to buy
a book of jingle bells.
I'm going to buy a
paint brush. I'm going $\overset{out}{\wedge}$ to
buy $\overset{an}{a}$ elephants. I'm
going $\overset{out}{\wedge}$ to buy a car.

Dawn
Second Reading

Key: I'm
I am = substitution
elephants = omission
going out to = insertion

Given what we know about the way our initial drafts of manuscripts take form, the generative and self-educative benefits of continued engagement in the process which Dawn and the other children we studied displayed does not surprise us. It is, of course, parallels like this between reading and writing and between what children do and what we do, that lead us not only to look at reading behavior as scribbling, but at the processes involved in scribbling as being universally applicable to the study of written language growth and development at all ages.

While this generative process is less trackable in the writing which 3-year olds do, given their non-conventional script, it is nonetheless discernible through propositional analysis of the text read. Often children at 3, but not nearly so often as some would lead us to believe, wrote one thing at Time 1, but at Time 2, when asked to read what they had written, renegotiated the markings to be something else. Often these renegotiations in reading, as has already been illustrated in previous sections of this report, fell within the semantic field of the original text. Vygotsky (1978) would argue, nonetheless, that renegotiation is evidence of the child's lack of understanding of how written language functions. Vygotsky's argument, however, ignores the generativeness of language and instead falls into the trap of looking at written language as serving only a maintenance function.

For Vygotsky literacy only occurs when language users demonstrate that the original meaning has been maintained from conception in the head (meaning^1), through writing or invention of a mark (object^1), through reading or reconstruction of the original meaning. We might represent Vygotsky's thinking formulaically as:

	Example:
Meaning^1	Child thinks 'snake'
Object^1	Child makes mark (swiggly line) on paper to represent 'snake'
Meaning^1	Child reads mark and reconstructs 'snake'

In lieu of Vygotsky's formula we would propose that language is potentially generative at every point in the event, and that it is the openness of language which makes the process of literacy both generative and self-educative. What we initially mean (Meaning^1) gets placeheld with a set of marks in writing (Object). These marks are signs which can trigger our original meaning (Meaning^1) or a new meaning (Meaning^2). We could represent our thinking formulaically as:

Meaning^1	Child thinks 'snake'
Object	Child makes mark (swiggly line) on paper to represent snake
Meaning^2	Child reads mark and constructs 'the path the snake took'

More accurately the formula might read Meaning^1 over Object$^{1 \text{ or } 2 \ldots\ldots N}$ over Meaning^2, where the Object as a sign can signify different meanings.

Further, our data suggest that the generativeness of language is not something laid on literacy after you first know and understand its maintenance function. Both the maintenance and generative functions of written language are there and being explored from the start. It is the openness of language which leads to growth, both ours and yours. What I write can mean more to me later than what it meant to me when I wrote it. What you write can mean more to me than it did to you. The openness of language leads to both creativity and error. That the process which leads to creativity is also the process which leads to error is something we must accept; but clearly, since we can not have one without the other, then we cannot ignore, confine, fail to appreciate, or to encourage this process.

2.4 RISK

2.4.1 RISK: THE YOUNG CHILD AS INFORMANT

Language is inherently social. Because the trail of marks we leave during the writing process makes language users vulnerable, engagement in the process can scare both participants and observers. When this happens withdrawal from the process can occur. Since access to the process can only be gained through involvement in the process, strategies which allow language users to set aside perceived or real constraints and permit engagement on the language user's terms are central to growth in literacy.

- *Benjamin, age 4, when handed the book* The Ten Little Bears *and asked to read, questioned, "You mean pretend to read?" "Yes," the researcher responded, "just do the best you can." Given this assurance, Benjamin was able to proceed.*

  Benjamin's question shows a concern for the constraints he perceived as operating in this context. Having abstracted out of past encounters with reading some notion of what is involved, he decides that if this is the kind of reading we are talking about, he can't read. If, however, he can 'pretend', that is, set his own constraints, he can proceed on his own terms. Since access to the process can only be attained through engagement in the process, Benjamin's strategy is significant. Through 'pretend', constraints can be set aside; a new set of rules operates.

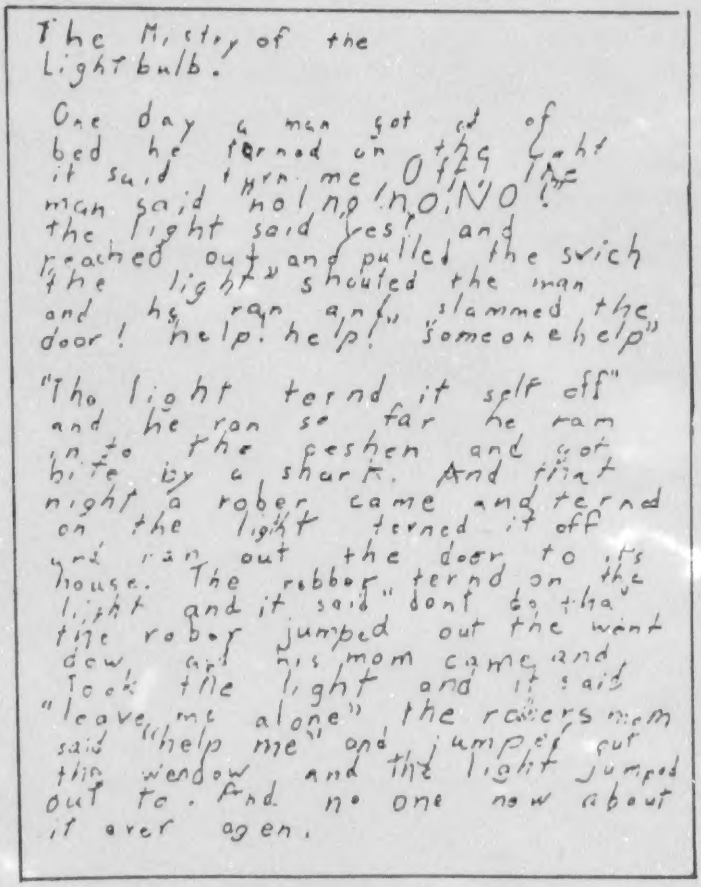
- *Boyd, age 3, was asked to write his name and anything else that he could write. He began by writing a 'B' which came out backwards. Saying "I can't" as he tried to erase his mark with his finger, he quickly announced, "I'm going to make a monster," and then proceeded to do so using art instead of writing. While his monster was not placeheld with any more of a conventionalized set of markings than was his aborted name. Boyd evidently saw art as not imposing a set of constraints that writing did, which made his efforts inadequate. By age 4, most children are very aware of the constraints involved in writing. When the management of these constraints appears overwhelming, children often elect not to participate.*

- *Leslie, age 6, when asked to write, initially responded, "But I can't spell." When we assured her that we were not interested in her spelling, but in her writing, she was able to proceed. The perception that when one writes one must spell correctly appears to be the single biggest constraint which 5 and 6-year old children see as why they can't engage in the process. Given the attention spelling is given by teachers and parents this perception is understandable, but nonetheless dysfunction to growth in literacy.*

- *David, age 4, was handed a sheet of paper and asked to write his name and anything else he wanted to write. David looked at the researcher in dismay and responded, "I don't write! You learn to write in kindergarten!"*

  While David's response appears 'cute', given all that other 4-year old children in our sample had and continued to learn about literacy through involvement in the process, dysfunctional notions such as this fail in the end to serve the language learner.

- *Leslie, age 10, was selected by her classroom teacher to be "worked with" in writing because she found her "frustrating." "She'll spell a word correctly in the beginning of her paper and then turn around and misspell the same word later on." In the writing Leslie did for us she initially spelled turn T-U-R-N only later to spell it T-E-R-N in the same piece. Light was originally spelled correctly, but became L-I-H-G-H-T later on. When asked as she turned her paper over to us immediately upon completing her first draft, "Leslie, do you ever reread your writing to see if you got it the way you wanted?" she responded, "Oh, no. My teacher does that."*



The Mistry of the
Lightbulb.

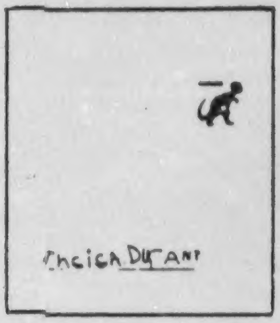
One day a man got ot of
bed he terned on the Light
it said turn me Off the
man said "no! no! no! NO!"
the light said yes! and
reached out and pulled the swich
"the light" shouted the man
and he ran and slammed the
door! "help! help!" "someone help"

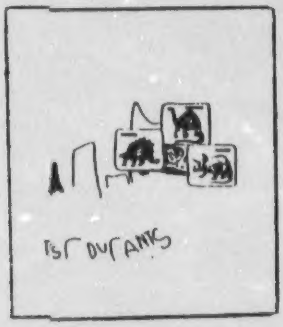
"The light ternd it self off"
and he ran so far he ram
in to the oshen and got
bite by a shark. And that
night a rober came and ternd
on the light terned it off
and ran out the door to its
house. The robber ternd on the
light and it said "dont do tha"
the rober jumped out the wint
dow and his mom came and
took the light and it said
"leave me alone" the robers mom
said "help me" and jumped out
the window and the light jumped
out to. And no one new about
it ever agen.

> *Leslie's response, "Oh, no. My teacher does that!" provides clear evidence of the instructional constraints which she perceived and which guided written performance in this setting. What is interesting, of course, is that the constraints present in this instance of language instruction worked against the attainment of the instructional goal of becoming an independent writer--the very goal we can assume this teacher was working on by involving her students in writing in the first place. In this instance, the unwritten message of past instructional behavior--the teacher's careful correction of the children's written products--became a powerful force altering instructional intent. Rather than insuring corrective feedback for growth toward proficiency, it short-circuited the very process in which this student must engage if she is to become proficient. An instructional procedure instituted to facilitate, debilitates written language growth and development when examined through the eyes of the language user to whom it was directed.*
>
> - *Bill, age 4, was shown a variety of logos from selected pieces of environmental print and was asked what they said. When shown the Kroger Eggs logo, Bill responded, "Milk." When shown the Kroger Milk logo, Bill responded, "Mil- . . . no . . . I don't know." When shown the Kroger Cottage Cheese logo, Bill paused and responded, "I don't know." Bill had similar problems with Jell-O, Coca-Cola, and Band-Aid, in that having once said, "Coke" to Band-Aid he felt this option used up and so missed Coca-Cola too. One day later we laid all six items out in front of Bill and said, "Give me the one that says 'Kroger Milk'." Bill scanned the set and handed us the Kroger Milk logo. "Give me the one that says 'Kroger Cottage Cheese'." Bill handed us the Kroger Cottage Cheese logo. "Give me the one that says 'Kroger Eggs', . . . 'Jell-O' . . . 'Band-Aid' . . ." until the one remaining was Coca-Cola. When we asked, "What does this one say, Bill proudly, said, "Coke."*
>
> *Knowing what items we had used in our product condition of this task, Bill was familiar with the options he was likely to face. Trying to work within this set of options, his previous experience with our task operated as a constraint on his current decisions. Once he had used an option it was no longer available. When we altered the task the range of options available was clear; hence, the quality of his decisions improved. Under this later condition with optional constraints clear, the task becomes manageable.*
>
> *Constraints operate in all language settings. These constraints are both perceived and real. Alter the constraints operating in a context of situation and a new set of linguistic resources suddenly appears.*

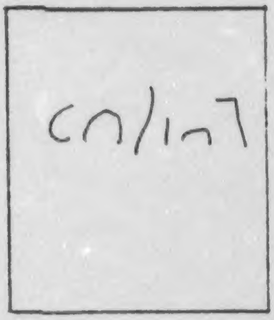
Because language is an open sign system, risk is necessarily a central feature of the process involved in its use. Without risk there can be no discovery of the generative potentials of literacy. Overemphasis on the maintenance aspects of language discourages risk.

- *Bradley, age 4, was shown first a picture of one dinosaur and then a second picture of two dinosaurs and asked what each was in a replication of Emilia Ferreiro and Ana Teberosky's tasks (1981) designed to observe whether or not children had strategies for coping with plurality. Bradley said of the first picture, "This is a dinosaur" and of the second, "There are dinosaurs." When asked to write, "This is a dinosaur," Bradley wrote, T-H-S I-S A D-U-R-A-N-T." When asked to write "These are dinosaurs " Bradley wrote, "T-S R D-U-R-A-N-T-S." While Bradley clearly understood plurality and how to sign it in writing, what is more interesting is the hypothesis he tests relative to the spelling of* ***dinosaur****. Knowing that his last name is Dryant clarifies his strategy. He began however, by sounding out the word* ***dinosaur*** *and at this point wrote the 'D'. Then, pausing and running through all the "d-words" he knows, he comes upon his last name, Dryant, and decides to give it a try. While his strategy "doesn't work" in this instance by our standards, it was the hypothesizing and testing that such relationships were possible which has led to the written language growth Bradley currently demonstrates.*





- *Carol, age 3, was asked to sign her name as part of a "sign-in" procedure instituted in her preschool whereby children keep their own attendance. Since this provided a functional writing setting and allowed us to collect name writing data over time, both we and the children were pleased with the activity. Carol's signatures consisted of C's, O's, and L's in a variety of upside-down and backward forms. One day as Carol nonchalantly signed in, she said to the teacher, "I tricked you last Friday, I signed in Carlos' name!"*



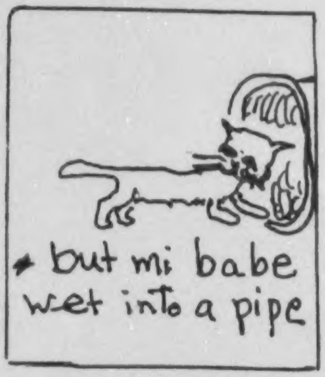
In searching all of the signatures we had collected from Carol no discernible Carlos signature was to be found. Having sorted out what constraints were operating, Carol, being the confident writer she was, was off testing more interesting hypotheses about language. Carol's new hypotheses had a lot to do with us, but were not the set we thought we were interested in when we designed the study. In comparison to Carol's subtle understanding of tenor relationships in language, our interests pale to insignificance.

- *Hank, age 3, repeatedly signed his name H-A-N-K, only occasionally producing an upside-down N. One day he signed in H-A-K. As he was putting down his pen, the researcher questioned, "Are you done?" "Yep," came the reply, "that N is giving me too much trouble so I decided to leave it out." Two weeks later Hank's signature again contained the N.*

- *Alison, age 5.5, purchased a fill-in autobiography book from her visit to a school book fair with her brother. Since not only had functional spelling been accepted, but encouraged, she knew asking spellings was something others did; she must rely on her own resources. In completing the page on favorite clothes one of the sentence starters began, "My favorite shoes are ______________." Alison completed the sentence by writing "my Sunday shoes" spelling it M-I S-N-D (backwards)-A S-H-O-E-S (a correct spelling she got by copying the word shoes from the sentence starter stem in the book). Pointing to her correct spelling of shoes she showed her mother the book page, saying, "Boy, is Dad going to be mad . . . I got this one right!"*

  This story, like those of Carol's, Leslie's, and others in this section all illustrate the insightfulness of children and their cognizance of constraints that operate in particular language settings.

- *Jason, age 8, had stopped writing as a result of too much emphasis on correctness in his first grade reading program. His parents sent him for remedial help. When asked to write, Jason refused and elected to draw pictures instead. After much encouragement and assurance that we could read anything he wrote, Jason began writing and elected to write a 28 page story to a wordless book he particularly liked. His story demonstrates an extensive knowledge of language and few teachers whom we have worked with can understand how a child with this written language knowledge could possibly have been 'in trouble' in first grade.*



Given that all that we know cannot be attended to at once, and that our latest language discoveries are always more fun to think about than that which we already think we have sorted out, written language is almost a perfect medium for the mind to work with. The process leaves a revisitable trail. In so doing, writing allows the mind an opportunity to do what it considers exciting--think about, attend to, and record the new--while simultaneously permitting, via the convenience of another literacy--reading, speaking art, etc.--the opportunity to revisit, reflect, and orchestrate these latest discoveries with the old or known. Given the make-up of human cognition, this arrangement metaphorically allows us to have our cake and eat it too.

Since there is no good way, nor no good reason, to alter these penchants of how the mind naturally works, understanding this process and the psychological centrality which risk plays in it is important. The role risk plays in literacy needs to be supported, facilitated, and reflected sociologically in the supportive environments we create for literacy learning.

The discussion of risk in relationship to written language learning which follows further expands this position by tracing its origins and by demonstrating that this concept is as applicable to understanding our writing behavior as it is the writing behavior of young children.

2.4.2 RISK

If one very carefully sits down to analyze how reading cognitively differs from writing, almost all of the initial differences one might propose dissolve (Goodman & Emig, 1979). Both the reader and writer must identify appropriate background information, create a text, make inferences, plan, search for unity, self-correct, and so on. Clearly one process is not more generative than another. It takes both the reader and the writer to create a revolution.

After an analysis of this sort is done, about the only difference between reading and writing that one is left with is that under normal conditions writing is more public than reading. Even this difference, of course, disappears under oral reading.

Generally this difference holds, however, and it is, we believe, an important one. Oral reading and writing both involve the creation of a potentially misusable private record of one's process decisions. Every false start, every misguided hypothesis, every mispronunciation or misspelling, every incoherent thought, every missed transaction (Shanklin, 1981), is available for analysis by both the language user as well as any would-be language teacher present in the immediate environ.

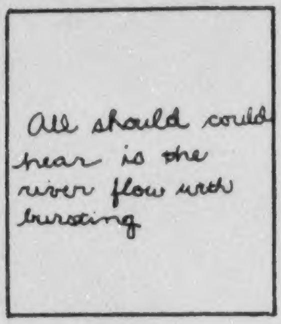
This is an important understanding, since the implication is that the vulnerability which a language user feels under the conditions of writing and oral reading is a "learned" vulnerability; not something inherent in the process itself. While it is the case that reading in the process of writing may heighten the author's own awareness of any false starts or other communication difficulties (Atwell, 1980; Perl, 1979), the feeling that these should not be present in one's first draft constitutes a dysfunctional view of the writing process, and a learned dysfunctional view at that (Britton, Burgess, Martin, McLeod & Rosen, 1975; Emig, 1971).

The relationship between linguistic constraints and linguistic resources has been clearly established (Hymes, 1967; Halliday, 1975; Harste & Carey, 1979). Social learning theories such as that of Lewin (1935, 1942) suggest that a change in one vector alters the homeostasis which was maintaining the behavior and is the impetus behind behavioral change; a new homeostasis. Language users bring to a language encounter their past readings of the constraints present and some sense of the successfulness or unsuccessfulness of the resource decisions which have been attempted. What worked last time becomes the general frame from within which one might attempt variation this time. Within this personal, but social, history of literacy, a range of choices present themselves. From a social learning theory, risk is relative, but clearly not an unaltered attitude. The more evident constraints are to the language user, the less likely an attitude of risk will be adopted.

These understandings are crucial, as recent research suggests that reading and writing are risky businesses. Because of the limits of short term memory the mind in relation to text leads; the hand and eye follow. Planning is an integral part of both the reading and writing process. Global intention propels the successful instances of the process and is the frame within which more specific planning takes place (Flower & Hayes, 1980; Kucer, 1982; Atwell, 1980; Shanklin, 1982).

Robert's text is a prime example of this phenomenon in writing (see Figure 22). In wanting to write she could, Robert wrote instead should, demonstrating that when his hand was writing she, his mind was ahead. Because of this "mind-hand span," writing must be functional for all of us at "the point of utterance."

Figure 22. Story Writing--Robert, Age 9



All should could
hear is the
river flow with
bursting

What's true for writing is also true for reading. Smith (1978) and Smith, Goodman, and Meredith (1978) argue quite powerfully that in order to decide what the left-hand portion of a sentence might mean, the reader already has to have decided what the right-hand portion of the sentence is likely to mean. More simply the function which a word serves in an utterance is not inherent in the word, but in its use. White is potentially anything: a noun (Mrs. White, the white of an egg, Whites as opposed to Blacks), an adjective (The White House, white electricity), a verb (as in whiten the picket fence, or white out the line of type). The reason not all options need be explored by a reader in reading is that the context helps to establish intent and limit available options.

Having established that: (1) risk is an integral part of the language process; (2) the process of risk taking is constrained by the language user's personal-social history of literacy; and (3) there is nothing inherent in the process itself that leads language users to perceive writing and oral reading as more risky than other language engagements, what remains is to establish risk as a central and universal strategy in literacy learning. While this insight is similar to the argument which establishes risk as a central feature of the reading and writing process, it is different. The previous insight asserts that it is via the process of risk taking that language learning and hence growth in literacy occurs.

Vygotsky (1978) argues this point probably the most cogently of anyone. He maintains that under known conditions the language user's responses are predictable and hence safe. Under such conditions, rather than learn new rules, what the language user is doing is confirming old rules. When things go wrong; that is, when the expected relationships or known rules do not hold, the language user is forced to develop new rules and new responses to cope. To live within existing rules and predictable patterns is not to grow. It is only under conditions where all of the relationships are not known that language users must scamper to outgrow their current selves. In this process they identify new patterns and relationships and, in Vygotsky's terms "become a head taller than their current selves."

The importance of these theoretical arguments for literacy learning should not go unnoticed. By penalizing the language user for engaging in risk, teachers or would-be teachers potentially convince the language learner to play it safe; or worse yet, encourage non-engagement. Since one can only access the process through use, such settings mitigate against the very goal--literacy learning--that they are supposedly encouraging. Further, if Vygotsky is right, playing it safe is not an ideal learning situation. It is only when we don't play it safe that we must outgrow our current understanding. It is, then, neither a no-risk nor a high-risk learning situation which constitutes ideal literacy learning settings, but rather a low-risk situation. In such an environment the language user neither guesses wildly, nor does not guess at all; rather, he or she finds himself or herself in a setting where calculated guesses and "what-I'm-ready-for" constraints are allowed to evolve.

Counter to current instructional folklore, recent insights into risk and its relationship to literacy and literacy learning suggest that literacy programs which insure correct response and attempt to eliminate error fail to best serve literacy learning. It is only when the language user gets himself or herself in trouble, within what was perceived to be a moderately predictable setting, that growth occurs.

What is, of course, fascinating is that when the writing of young children is examined from the perspective of risk, all of these insights are immediately apparent. Children 5 and 6 years of age are much more cautious about written language than are children 3 and 4 years of age. This is as true in reading as it is in writing.

The response times of 5 and 6 year olds in reading environmental print, for example, are slower than the response times of 3 and 4 year olds (see Harste, Burke, Woodward, 1981). Figure 23 shows these data using three categories of response times: Immediate, defined as the normal pause of the language user; Pause, the normal rate of the language user plus a count of 4 to 6; Prolonged Pause, the normal rate of the language user and a count of 6+.

The older the child, the slower the response time. This is not because 5 and 6 year olds know less about written language, but because they know more.

Figure 23. Response Time by Age to Environmental Print

Category Label	Age 3	Age 4	Age 5	Age 6
1. Immediate	98.3	96.6	90.2	87.6
2. Pause	0.9	2.9	6.7	6.9
3. Prolonged Pause	0.9	0.5	3.1	5.6

The more that is known, the more that must be taken into account. As any expert will tell you, knowing more about a topic than someone else is not only liberating in one sense, but constraining in another. The "expert" 5 and 6 year old has had more language encounters and hence more opportunity to observe and note the orchestrated contextual, behavioral, affective, and linguistic demonstrations which constitute successful language use in the literacy event.

While such encounters make one more realistic, they also make one more easily intimidated. With better and better clarification of all that must be orchestrated comes cognizance not only of others, but also of one's own inadequacies.

Nanci Vargus (1981), in reporting ethnographic data on her own children's growth toward literacy, recorded the following interchange between her younger (kindergarten) and older (first grade) daughters, while the former was reading to the latter:

Becka: Abigail! The word is fetch not get.

Abigail: Yeah, well, get works.

Becka: That kind of reading is okay at home, but it doesn't work in school!

As the interchange between Becka and Abigail shows us, it is as easy to demonstrate and support notions of written language inadequacy as it is notions of written language literacy.

Rarely do language users at any level think of themselves as really prototypically ideal readers or writers. From our observations of readers and writers of all ages we conclude that rarely do language users stop reading a good selection because they feel there is nothing more to learn if they were to reread, nor do they stop rewriting their manuscripts because they believe them done. In both instances, language users stop because they've gone as far as they can and continued engagement isn't worth the effort.

As authors, we will submit this manuscript not because it is done, but because at this point in time it is what we can do. As readers, the more we get out of a book on our first reading, the more we are convinced that rereading of the book a second time would be profitable. This poses a dilemma for the language user; a dilemma that can only be solved in a supportive environment--one where our understandings gained from reading are appreciated for what they currently are, not what they could become; one where our written attempts are appreciated for what they currently and boldly attempt to say, not what they might say if they had been better penned.

The hardest thing to appreciate for any language user who has had more opportunities to be present in a literary event than someone less fortunate is the other's literacy achievements. Older informants in our studies were always more sympathetic, more understanding, more impressed with the achievement of their younger siblings than were parents who seemingly were more ready for the next "stage" than the one the child was currently in. Given the superordinate-subordinate relationship between would-be teacher and would-be learner, this language phenomenon needs to be both understood and anticipated for or it results in the creation of settings not conducive to language learning.

When we look at the child's willingness to engage in our writing tasks the thing that becomes clear is that with increasing experience comes an increased sense of risk and a concomitant reluctance. Three-year olds never refused to participate in any writing experience we suggested; they were always game, though they discovered more about some writing tasks from their actual engagement in the writing event than they seemingly brought with them as stored information.

Four-year olds were initially more reluctant, often asking, "You mean pretend to write?" This question demonstrates their understanding of the constraints that were operating in real instances of literacy of this sort, as well as their own sense of inadequacy relative to these perceived demands. Pretending allowed them a way out of the horns of this dilemma. It permitted them to set aside the complex of constraints that they were cognizant of; constraints which suggested to them that they were unfit to successfully engage in the event. Pretending for them was an engagement strategy. It afforded them opportunity to engage in activities they knew they were not ready for and in the process demonstrate both for themselves and others that their sense of non-readiness was all the readiness needed.

In contrast, 5 year old and 6 year old written responses are more cautious, more "I'll-live-within-your-world" strategic attempts at literacy learning. Whereas 3 year olds would give us unhesitatingly a page of markings, 4 year olds a "pretend" but viable text attempt; 5 and

6 year olds would give us an acceptable but safe surface text. While not immediately apparent in the graphic displays themselves, it is important to understand that 5 and 6 year olds were orchestrating as many constraints--though a different set--as were 3 and 4 year olds.

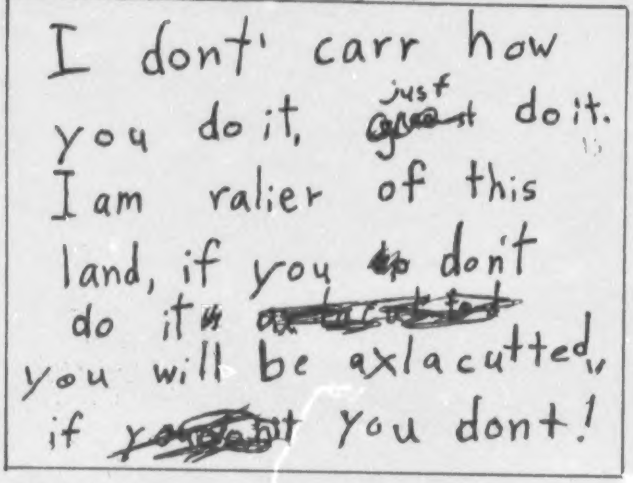
What their experience in school literacy settings had taught them is where to devote their selective attention. Being 5 and 6 they know that in this context--a school setting, working with individuals who look distinctively teacher-like and who were or seemed interested in distinctively teacher-like things, i.e., reading and writing--that they were not to experiment, but rather to demonstrate what they had learned. The only thing they were sure they knew was what their teachers had taught them. Under these conditions, the results--a list of known words; a shortened rendition of a famous fairy tale--is not surprising.

From the perspective of risk, the 3 and 4 year olds look like better, more aggressive language learners. They test much bolder hypotheses about how to make literacy fly (not how to get by), get themselves into more trouble, and in the end, given our measuring stick, are more successsful than their older, wiser, and more cautious literate friends.

It is important to understand that the vulnerability which 5 and 6 year olds displayed is a learned vulnerability, not something inherent in the process. If this were not the case, there would be no difference between the response patterns of 3 and 4 year olds as opposed to 5 and 6 year olds. While constraints operate in any language setting, what our data confirm is that when awareness of constraints has been heightened, the result is a decrease in the very risk taking behaviors which are essential to literacy.

The centrality of risk to literacy is best exemplified when we look at 8 year old Robert's writing (see Figure 24). Robert has the king in his story talking: "I don't care how you do it, just do it. I'm ruler of this land, If you don't do it you will be axlacutted if you don't."

Figure 24. Axlacutted Story—Robert (Age 8)



I dont' carr how
you do it, just do it.
I am ralier of this
land, if you don't
do it ~~axlacutted~~
you will be axlacutted,
if you dont!

Notice Robert's first use of "axlacutted." Meaning is far out ahead. Robert initially writes "axlacutted" almost a whole line ahead of where he really wants it. The "mind-hand span" in writing is clearly demonstrated and so, too, why writing at "the point of utterance," is and must be functional.

It is the writer's image of a unified "text world" in tension with the discontinuity of the evolving "surface text" (a tension noticed when the writer acts as reader) that causes a shift in the language user's psychological stance. Now the language user must look at language anew; analyze it, revise it, and move on. This "new look" is metalinguistic. In self-correction Robert has to take stock of what went wrong and more consciously apply what he knows about language as a tool. It is in the heat of orchestrating an evolving surface text to placehold an imagined text world that one's consciousness of language as a system is raised.

During writing, the writer's attention must be focused upon the creation of a text world--solving problems of unity and discontinuity between the "text world" and the "real world"; creating and searching for unity within this fictionalized world. Given the limits of short term memory, the writer--short of disengagement--has no other option than accepting a functional transcription. To worry about correct spelling and good grammar is to occupy short term memory with surface text and, in the process, to lose "text." The more viable strategy is to placehold the surface text, no matter how roughly, and allow refinement to come via the convenience of another literacy; namely, reading.

Our data would suggest that the surface text transcription strategies of functional writing is learned naturally. It is only when dysfunctional strategies are suggested--such as those associated with error-free writing--that disengagement becomes the favored option and unfortunate mode for many. Rather than live with the litter of literacy by enjoying the convenience and by accepting the responsibility for clean up, the franchise is never offered nor seen.

Equally important is the fact that in crossing out "axlacutted," Robert has placeheld where he wants to go, and can now selectively attend to how he might get there. Robert's revision serves a semantic placeholding function, which, while messing-up the surface text, assures textual direction.

For adults under known and well-rehearsed writing conditions it may be possible to produce what looks like errorless writing. Nonetheless the more unsure the adult is in a writing setting, the more functional will be the resulting written output. For both children and adults, there is simply too much to orchestrate initially to make correct writing the criterion of successful writing.

This position argues against automaticity. It's not the fact that lower, more fundamental processes have been mastered which allows us to selectively attend to text, but rather having attended to text functionally we can selectively afford the luxury of attending to essentially textually-related matters like linearizing semantics and conventionalizing syntax and spelling.

In equivalently unfamiliar writing territory, the writing of children and adults looks decidedly similar (see Figure 25). Note, for example, our initial draft of an earlier portion of this manuscript with subsequent drafts, bearing in mind as you do Robert's "axlacutted" behavior and the similarity involved.

Figure 25. Writing as a Functional Process

Early Draft	Later Draft	Still Later Draft
Robert's crossed out axlacutted is not a pointed instance of messup text but a semantic placeholder.	Robert's crossed out "axlacutted" is not a pointed instance of messed up text but a semantic placeholder.	Robert's revision serves a semantic placeholding function, which while messing up the surface text, assures textual direction.

Show us a safe writer and we'll show you someone who doesn't write much, often, or well (English teachers are prime but sensitive examples). By not rooting curriculum upon the functional strategies which successful writers use, we convince children to abandon their more functional approach and lament the result, compliment them on writing achievements which do not merit comment, and fail to appreciate that what they have learned to orchestrate is our demands more so than the process.

The first definition of a scribble offered earlier by Harris & Hodge (1981) was "to write carelessly without attention to shape or legibility of letters, accuracy of spelling or grammatical correctness." If this definition holds, then our data suggest that all initial writings by all language users--both young and old--are scribbles. To the extent that scribbling is a strategy which allows language users to search for, find, and placehold text, it is an extremely functional one. To the extent that all initial engagements in literacy events are less than perfect, scribbling is not so much a stage as it is a universal characteristic of any language user's response. The only thing any of us can do in any instance of written language use is scribble; that is, given our current level of understanding, take our best shot.

2.5 SOCIAL ACTION

2.5.1 SOCIAL ACTION: THE YOUNG CHILD AS INFORMANT

Understanding that one stops at a Stop sign, attends very carefully to story details to be successful in classrooms, eats at McDonald's, is not something one learns by abstractly thinking about print, but by inferring relationships between print and the actions of other participating representatives of the culture. While language labels like words are arbitrary and abstract, the psycholinguistic and sociolinguistic actions they sign are concretely referred to a variety of experiences and encounters with language in use.

- *Alison, age 1.5, was told by her father to "close the door" which had been left open as the family entered the house after coming back from a shopping trip. Alison looked at her father and then at the door and then slowly made her way to the door and closed it. At age 1.5 Alison's productive abilities were very limited. By age 2, Alison's vocabulary contained two hundred words. While she could not have produced this sentence herself, her behavior demonstrates that she was already a language consumer and user.*

- *Nathan, age 3, was shown a carton of Crest toothpaste and asked what it said. Nathan responded, "Brush teeth." To Nathan C-R-E-S-T was not an abstract symbol, but a concrete index to a particular form of social action; namely, brushing teeth. Language while arbitrary and abstract at one level, is a direct and concrete sign to psychological and sociological action in use.*

- *Tasha, age 3, was shown a box of Band-Aids and asked what she thought it said. Tasha responded, "Bandages . . . You're not suppose to stick them on the toilet." In talking with Tasha's mother about this incident we came to find out that Tasha had taken a box of Band-Aids and stuck them all over the stool in the toilet in their bathroom one afternoon six months earlier. While the letters B-A-N-D A-I-D signed "Bandages" to Tasha, it also signed a particular form of social action which had a particular set of meanings to her given her personal history of literacy with this object.*

- *Nora, Saul, and Maura, age 9, were asked to read a selection together and at the end of each paragraph say something to their neighbor about what they had read. Rather than talk about what the selection meant to them, Nora, Saul, and Mora asked teacher-like questions of each other at the end of each paragraph checking each other's comprehension. While this strategy had been developed to support children in developing a more functional view of reading, what the opportunity to talk during reading signed to these children was questioning, the focus of their questions being on correct answers. These dysfunctional notions about reading were learned instructionally via the demonstrations which were made available to these children each time they read assigned selections in the classroom. Reading to them signs particular cognitive actions which in the end short-circuit their explorations of what real reading as it relates to literacy is all about.*

- *Frank, age 5, was shown a variety of environmental print and asked what he thought it said. All of his responses were admonitions: "Don't walk on the grass," "Don't eat that Jell-O," "Don't write on that mailbox," etc.*

  Without reflecting on what set of experiences led Frank to his decision that all environmental print served a regulatory function, Frank, even within this frame, has discovered much about written language and clearly sees it as pertinent and related to his life.

- *Marvin, age 3, was reported by his father as always "driving me nuts." "Right now, he's running around the house with a little pad of paper playing policeman. He gives you tickets if you leave dirty dishes in the family room and stuff like that."*

  What Marvin's behavior demonstrates is that he understands one of the many functions of written language. From on-going encounters with print in their world, children discover the many functions written language serves and actively go about exploring these new insights.

Language is a socio-psycholinguistic process, not just a psycholinguistic one. While in the final analysis each language user and learner must do it for him or herself, language learners are never psycholinguistically on their own. Psycholinguistic activities are sociologically available to language learners as they participate in a literacy event observing other language users engaged in the process. In a literate environment, identification of objects which are considered culturally significant signs (like written language), as well as what these signs signify in terms of psychological and sociological stances and actions are available in the participatory activities and behaviors of others engaged in the event.

- *Brad, age 2.8, received a copy of the picture book, It Didn't Frighten Me (Gross & Harste, 1981) from Brad's mother. Brad immediately picked it up, leafed through it, and then went back to the front to begin reading it. Looking at the pictures of the animals and noting their teeth Brad said, "He bite." Then looking at the boy in the bed, he added, "But he didn't bite me." For each page, Brad followed a similar procedure saying, "An orange alligator in a tree. He bite. But he didn't bite me. A blue monkey in a tree. He bite. But he didn't bite me," thus creating in a sense his own predictable texts. Later in the evening Brad asked his mother to read the text with him. His mother read the first part of each page and as she came to the last line it was Brad's turn. His contribution at this point in time was, "But he didn't bite me!" Despite the fact that Brad's line differed from the author's line, Brad's mother at each of these points accepted Brad's contribution and proceeded to the next page and her part of the reading.*

  The last sequence in this book shows a brown owl in the tree which breaks the picture pattern of the book as all previous animals are either make believe or unlikely to be found in trees. This shift in pictures is also reflected in the graphics where the pattern now changes: Instead of: "One pitch, black, very dark night; Right after Mom turned off the light; I looked out my window only to see; A (adjective) (noun) up in my tree. But that (adjective) (noun) didn't frighten me," the form is now "One pitch, black, very dark night; Right after Mom turned out the light; I looked out my window only to see; a big brown owl sitting in my tree; And did that big brown owl ever frighten me!"

  Because of these shifts, Brad elected not to read his line on the last page. Brad's mother, sensing his desire to have her proceed without his oral participation, read, "And did that big brown owl ever frighten me!"

  All was quiet for a moment while Brad puzzled over the book switching attention from the owl to the boy in the bed, who on this page is sitting up with mouth agape, eyes wide, and hair standing. Brad immediately wanted the book reread. This time, as they jointly read the text with Brad's mother reading the first portion of each page and Brad reading his line, he said, "But that (adjective) (noun) didnt' scare me!" Never here nor in any subsequent interaction with

> *this book did he ever mention the concept of 'bite' again! This is an important language story as it documents early evidence of sign utilization as well as the cultural and social nature of literacy learning. While Brad clearly created his own viable text from the graphic display available, as a result of social interaction his new text moves closer to what might be called social convention in reading. What Brad learned in interaction with this book and his mother, who in one sense was acting as a representative of her culture, was what constituted the signs in this book and what one was to make of them.*

- *Heather, age 3, when shown various pieces of environmental print and asked what they said, would pick the item up and toss it across her shoulder, put it to her lips, act like she was eating it, or do any number of things we found initially incomprehensible. In watching and rewatching our videotapes we discovered that rather than answer our question, "What do you think this says?" Heather answered the question, "What things can you do with this?" From this vantage point her actions were logical and could be successfully read as signs for 'throwing', 'eating', 'drinking', etc. For Heather as for all of us written language was something one did something with. As an object it was a sign signifying certain forms of physical action.*

- *Leslie, age 4, was shown a carton of Crest toothpaste and asked what it said. He responded by chanting the names of the letters in Crest forwards and backwards and then by pronouncing its name: "C-C-C-R-R-R-E-E-E-S-S-S-T-T-T-T-T-S-S-S-E-E-E-R-R-R-C-C-C, Crest."*

  Leslie demonstrates that he can do several things with written language including name the letters, say its name, and later when we ask him, "What other things do you know about this thing?" that "You brush teeth with it." The word Crest directly signs a variety of social actions and permits a variety of psychological stances. To say that written language is abstract is to take only one stance on language. In use, written language is concrete, indexing a range of certain social and psychological actions.

- *Alison, age 4, when shown the U.S. Mail logo and asked what it said, responded, "American picture sign."*

  When a sign function is established, that is, when an object is perceived as a sign which is interpretable as meaning, then an instance of literacy has occurred. Alison's fundamental understanding of literacy is readily apparent in her response as she tells us that she sees this object as a sign--"a picture sign"--signifying American.

Sometimes we seemingly forget that language is, by its very nature, social. Not only do writers assume readers, speakers assume listeners, but interaction with real or supposed social others involving all of the expressions of language are an integral part of any instance of the language and language learning process. This position suggests that how one learns written language is not different from how one learns oral language. Further, it suggests that how we made our last written language discovery was not different from how we learned our first. These insights fly in the face of much past thinking in the field. The discussion which follows elaborates this position and the thinking and experiences which led us to reformulate and challenge how language is conceived of within the structure of knowledge and knowing. We are much indebted to Professor Robert F. Carey for his assistance in helping us think through our data in this way.

2.5.2 SOCIAL ACTION: INTERDISCIPLINARY VIEWS

Language can and has been studied in a variety of ways. Linguistically, language is studied as a rule-governed system. Psycholinguistically, language is studied as a form of mediated, rule-governed behavior. Socio-psycholinguistically, language is studied as a form of mediated, rule-governed, social action. Not only does each of these postures give us an alternate perspective on language, but each perspective--moving from a linguistic perspective to a psycholinguistic perspective to a socio-psycholinguistic perspective--is more encompassing than the former.

Socio-psycholinguistically, language is seen as a context specific event. In order to understand the cognitive and linguistic operations that take place in language learning and use one must do so in light of the contexts--situational and cultural--in which that cognitive and linguistic processing occurred.

Language researchers such as Firth (1935) argued that meaning must not be regarded as either a fixed mental relation or historical process. In attempting to translate a tribal language to English, Malinowski (1923) found that direct translation was not adequate. In order to really interpret a tribal language required knowledge of the situation in which the language was used: the role language as opposed to other communication systems played in the communicative event; the relationship between the individuals involved and how such individuals respond to each other in that culture; and a sense of the activity being performed. He coined the term "context of situation" to describe the transactions which occur between text and context during the process of languaging. Richards (1925, 1936) extended this notion to the field of rhetoric arguing that writing cannot be judged arbitrarily as good or bad. Such judgments must rest on knowledge of the task and the writer's intent.

More recently Halliday (1975, 1978) has studied children's early oral language development in terms of language use in natural situations. He believes that children "learn how to mean" by learning the functions language serves in use.

Given the fact that we seated sixty-eight 3, 4, 5, and 6 year old children one at a time in front of paper and pen and asked them to write, it is of significance to note that all picked up the pen and made marks on paper when requested to do so. Not a single informant got up and closed the door, stuck the pencil in the knot-hole on the table, nor did 101 other things which we might deem as behaviors unrelated to the request. All picked up the pen and made marks on paper.

What this observation means socio-psycholinguistically is that all of these children saw writing as a legitimate form of social action. By their performance, children in our study--innercity as well as suburban--demonstrated that they already understood that given certain kinds of oral requests, the making of little black marks on a piece of paper was not only culturally acceptable, but culturally expected.

Our conclusion is that children, by the age of 3, demonstrate a personal as well as social history of literacy. The single act of putting pen to paper when requested to write, repeated as it were across 68 children in our Bloomington and Indianapolis studies and within children across various writing tasks, tells any observer--including a hypothetical man from Mars--that the children being observed came from a culture where making marks on paper is an accepted and important form of social behavior. Their behavior demonstrates that they had not only been present in language settings where this behavior has occurred, but that, by 3 years of age, they had abstracted out of such experiences some personal significance and within this frame had gone on to learn their cultural lesson.

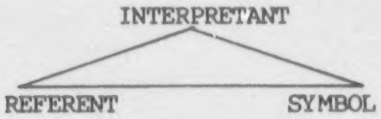
To make this observation, however, is not enough as it fails to clarify how this important language learning occurred. Working from the premise that it was the child's presence at past encounters from which such understandings were learned, Mary Hill (1980, 1982), one of the early members of our research team, has recently conducted her own follow-up studies. In current work she has set up a multi-age group situation where three children, ages 4, 4, and 2-1/2, are asked to write stories and engage in written conversation. Watching the 2-1/2 year old on the first of these videotapes is fascinating. Initially the child does not have a very clear notion of what to do. Watching the other children grab paper and pencil she, however, follows suit. From here on, while she makes marks on her paper, her rapt attention is upon the other children. Her stance is observer; but active observer. It is not so much her direct physical participation in the experience as her presence at the encounter which allows her to sort out what's happening and its significance. The importance of these data lies in the fact that they begin to help us clarify the difference between a language encounter and a language experience, to appreciate such difference, and to value both as significant language learning events.

What was demonstrated to Annika, the 2-1/2 year old, among other things, was writing as a culturally acceptable form of social action. Additionally, the setting demonstrated to her not only what you use pencils for, but also, whether she needed it or not, what pencils do, what purpose paper serves, how you use both in conjunction with an oral request to write, how such activities allow exploration of the world, how such events allow participants to share their worlds, and how one's presence allows and affords not only social action, but social interaction. From a single quality written language encounter, this videotape demonstrates that the young child learns much. Clearly from this moment on, embedded within her notions of paper and pencil, are what paper and pencils do.

Eleanor Gibson (1976) talks about children's perceptions of chairs as affording "sitting," cars as affording "driving," tricycles as affording "riding." While such characteristics are not seemingly inherent in the objects themselves, it is the child's presence at such settings which permits the child to abstract out key social forms of action. Annika teaches us that the same process holds in writing and reading.

Language is in one sense never abstract. Embedded in the concept DOG is what dogs afford: friendship, petting, messes, puddles, trouble. McDonald's is not an abstract set of symbols in one sense, but an iconic potential having indexical features to psychological and social action (Carey & Harste, 1982). Language as a sign does not directly point to any inherent qualities, but rather suggests interesting modes of psychological and social action which might be taken by the language user. The plus (+) and minus (-) signs of mathematics are analogous to how language operates more generally. Looking at a plus or minus sign we know what we are to do--cognitive operations to perform. While we can say the terms 'name', at this level we miss the psychological and sociological forms of action directly signed by these symbols. When we see M-C-D-O-N-A-L-D-S we can say "McDonalds," but more importantly *McDonalds* indexes as iconic territory of what we can do there.

Figure 26. A Semiotic Theory of Content



The semiotic study of content (Richards, 1923; Peirce, 1931-1958) is often depicted in the form of a triangle where an arbitrary cultural relationship has been established between the word (symbol), the object (referent) and the meaning (interpretant). The sign is the set of relationships that exist between symbol, referent, and interpretant (see Figure 26). When all of the relationships between symbol, referent, and interpretant have been made; that is, the sign function established, literacy can be said to occur. In this report we use 'sign' to mean 'sign function' and all instances of its use should be read as such.

There are, according to the theory of semiotics, different kinds of signs. A weather vane is 'indexical' as is a knock on the door, indexing someone's presence and the direction of the wind. A map is 'iconic' representing the actual item it references. Language is 'symbolic', meaning arbitrary; "dog" standing for *dog* not indexically or iconically, but by cultural fiat. Because of its grammar, some semioticians refer to language as a legisign (Thomas, 1979), though for now we will not concern ourselves with this distinction. The theory of semiotics further suggests that the order of sign development is from index to icon to symbol. Though there can be signs which are symbolic icons and iconic symbols, language in use is conceived a being symbolic and hence abstract (Carey, 1982).

We have semiotics to provide us a powerful perspective, but our data would refute the notion of semiotic order being from index to icon to symbol. Language, at base, is iconic. While language as a mediated form of behavior allows us to stand back and reflect on it as a system, thus permitting us to perceive language as symbolic, this is a metalinguistic stance; in use, it is iconic and as such indexical to psychological and social forms of action (Carey & Harste, 1982).

Band Aid signed for one of our informants "put it on your owie" and "You're not suppose to stick them on the toilet," two forms of social action. U.S. Mail signed for one of our informants, "American picture sign"; the beauty of the response being that it captures in verbal form the nature of the iconic image which U.S. Mail mentally generated. While often children might have difficulty verbalizing what they thought a given item of print might say, few had difficulty if they had ever encountered the print previously, telling what one did with it socially. "Brush Teeth" for Crest, "Drink It" for Coca Cola, "Eat It" for Jell-O, all are early social-action-response forms made possible through an iconic response to print.

Seeing language--both oral and written--as simultaneously indexical, iconic and symbolic, depending on psychological stance, explains why written language cannot be seen as some more abstract, second-order kind of cognitive processing which is laid upon oral language. Further it suggests that sign functions can be established with written language at a personal level as well as a social level; and that social language artifacts like convention cannot be equated with literacy or the literacy process, which by this view, entails establishment of the sign function.

The child who repeatedly uses a dot to placehold his name (Hill, 1980), is, in so doing, demonstrating a real access to the literacy process. He has a symbol (the dot), an object (himself), and an interpretant (signification). The fact that over time he moves to represent his name using the symbol H and later the symbol HANK is evidence of cultural refinement of this process but not cultural access; this was demonstrated much earlier. His election, one day, to write his new name HAK because "the N is giving me too much trouble" may be an ever fine-tuning of a personal and cultural literacy decision, but even his personal sign, HAK, has a host of cultural entailments.

The child who at 2 uses du' ba for "I want toast and jelly" (Halliday, 1975) and the family who semantically track and respond, despite the surface-structure form of what has gone on, are engaged in the real literacy process, not some pseudo form of it.

Access to the mother tongue is a culturally predictable form of social action given the child's presence in what are likely to be available language settings, but such access does not constitute the onset of literacy; that has occurred long before.

Picking up pen to write when requested to do so is not only then a form of social action, but a form of social action mediated through and with language. The significance of this event is that it provides evidence that the oral request acted as a sign and that given the child's written response a sign function had been established. Literacy is both a product and a process. As a product, to focus on surface structure form--be it convention or scribble--is to miss the literacy process; or in this instance the social and socializing action.

2.6 CONTEXT

2.6.1 CONTEXT: THE CHILD AS INFORMANT

Situational context isn't something one can consider or not consider in language--it is not a 'variable', but an integral part of the linguistic sign.

- *Robert, age 6, as a participant in a 'children's sermon', listened attentively as the pastor began:*

> *Children, I'm thinking of something that is about five or six inches high; that scampers across the ground; that can climb trees; that lives in either a nest in a tree or makes its home in a hollowed-out portion of a tree's trunk. The thing I'm thinking about gathers nuts and stores them for winter; it is sometimes brown and sometimes gray; it has a big bushy tail. Who can tell me what I'm thinking of?*

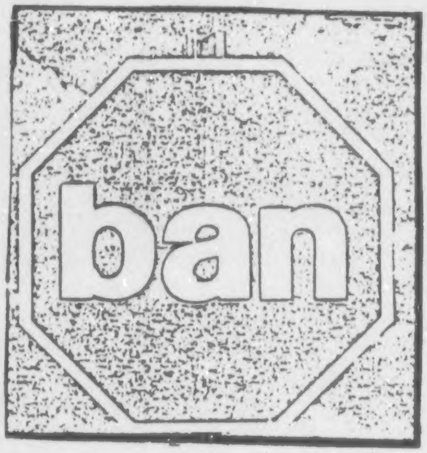
Knowing the proper church behavior, the children remained quiet and reserved. Finally, Robert slowly and ever so tentatively raised his hand. The pastor, desperate for a response so he could go on with the sermon, said with some relief, "Yes, Robert, what do you think it was?"

"Well," came the response, "ordinarily I'd think it was a squirrel, but I suppose you want me to say it was Jesus."

Language varies according to topic, the persons involved, and whether it is written or spoken. The language of church is different from the language used when talking with one's playmates; the language we find in books is different from the language we find on street signs. Language which sounds right at home may sound funny in church. Children learn to make adjustments in their language naturally from having many opportunities to be present in different kinds of settings where language is being used. Competent language users know and adjust their language to meet the demands of the setting in which they find themselves.

Under a different set of circumstances we would expect Robert to respond differently. If he were at home . . . if one of his friends were doing the questioning, the possibility that Jesus was the desired response would never have occurred to him. Not only would the content of Robert's response be different, but his phrasing would be different.

Robert's response is more than amusing or cute. It tells us that he is a growing, sensitive, and effective language user who has had lots of opportunities to compare, contrast, and use language in a wide variety of settings.



- *Joe, age 9, was shown a Stop sign with the word "Ban" written on it as part of our efforts to further explore the linguistic sign as being formed by the relationship of print in context. We had found this particular Stop sign in a magazine advertising Ban Underarm Deodorant. In the context of the magazine advertisement the message was clear: "Ban stops wetness." By clever cutting we were able to remove all other print and so managed to save the octagonal shape with the word Ban on it. We showed this print setting to Joe, a neighbor child, who not only knew of our interests in studying young children's growth in reading and writing, but who knew us and our research quite well. Interrupting his play we asked, "Joe, what do you think this says?" Joe paused a moment and said, "I suppose it says 'Stop' in German or something; that's just the kind of junk you'd carry around to pull out and ask unsuspecting kids about!"*

In addition to his humor, Joe taught us more about reading than our assumptive experiment could have rightfully hoped to teach us. Joe's response demonstrates not only his awareness of print, but more specifically, the relationship of print and context as the signing element in reading. We can speculate that the print in the context of the red octagonal shape suggested the message should say "Stop." That this print-context relationship is somewhat unpredictable is evident in that Joe's response is, "I suppose it says 'Stop' in German or something." But this isn't the only print-context relationship which Joe reads. He also reads the print-context relationship that operates between the print in its octagonal shape and us. He tells us that this second print-context relationship confirms his first prediction: "That's just the kind of junk you'd carry around to pull out and ask unsuspecting kids about!" Print clearly played a role in Joe's orchestrated decisions; not, however, as an isolated cue, but as part of a complex of cues which form a sign in a semiotic sense. Print doesn't sign meaning; print in relationship to its context--in this case its contexts--signs meaning. When we remove the road sign from the magazine, we change not only its signing potential, but its meaning potential. In the context of the magazine this print setting meant one thing, in our hands it meant something quite different.

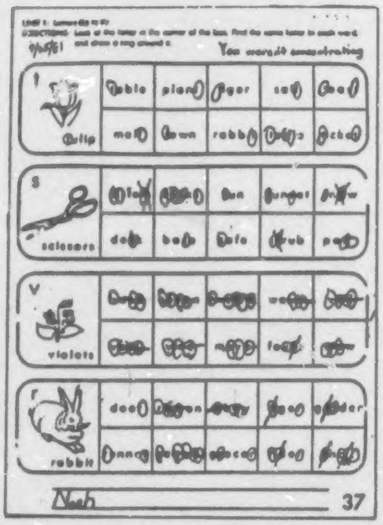
- *Ian, age 3, was shown a carton of Crest toothpaste on which we had whited out the print to see if 3-year old reading responses would look different under this condition than they did under the normal condition we had used in this research task. To our question, "What do you think this says?" Ian responsed, "Well, it should say 'toothpaste', but* ***you*** *took the print off!"*

  In contrast to the responses we received when the print was present--"Toothpaste," "Crest," "Cavities," "Aim," "Toothbrush," "Brush Teeth,"--Ian's response is qualified, demonstrating that the absence of print in this setting was a sign in itself which was noted and had to be addressed. The linquistic sign is formed by print in context. Even when young children's responses bear no direct phonemic-graphemic match, Ian teaches us that we cannot conclude that print was not involved in the forming of the response. When the print is removed, the nature of the child's response to print changes drastically--from "Toothpaste" to "Well, it should say 'toothpaste', but ***you*** *took the print off!"*

Embedded in text is context. The contextual rules of language use reflect themselves in the semantic, syntactic, and graphophonemic systems of language. Since context is embedded in language, it is also signed in that part of language we call print. In its function as a contextualized surface text, language signs psycholinguistically a potential range of interpretive procedures which we might employ.

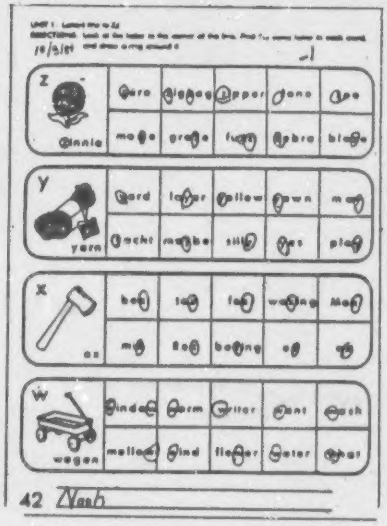
- *Joshua, age 3, loved to have books read to him. Knowing he is the son of a student studying for the ministry, the "Amen" he said at the end of each and every book read to him is understandable.*

- *Noah, age 6, was asked to complete a series of worksheets in his first grade classroom designed to give children practice in the visual discrimination of the letters of the alphabet. Each line on each worksheet focused on a different letter of the alphabet. The first line on the first worksheet focused on the letter 't'. Along with this letter was a picture of a tulip and the word* ***tulip*** *written out with the 't' circled. Adjacent to this picture were a series of words like* ***table, melt, plant, town, tiger, rabbit,*** *etc., which the children were to*



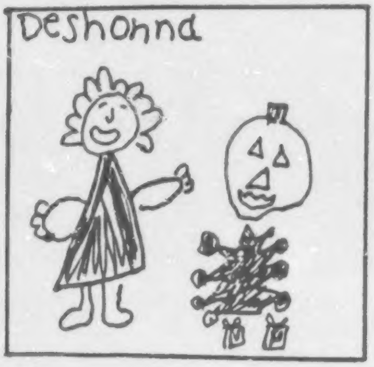
You weren't concentrating

t
tulip
s
scissors
v
violets
r
rabbit
Noah
37


10/3/81
z
y
yarn
x
w
wagon
42 Noah

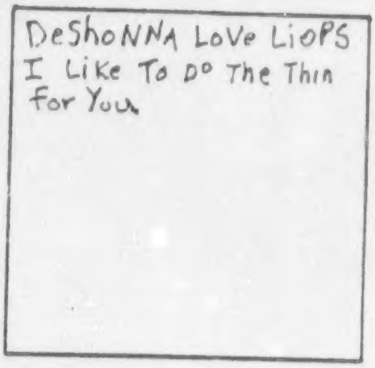
look at, find and circle the t's. Despite the fact that Noah did the first set in class together, when he went to work on his own, rather than just circle the s's, Noah circled all the s's, c's, i's, o's, and r's he found in the words sister, desk, base, socks, sun, safe, sunset, snow, etc., since all of these letters were used in spelling the word scissors. As he followed this procedure for the entire worksheet, and the teacher never discovered the rule upon which he was operating, his worksheet was graded unsatisfactory. The teacher's written comment on the top of his worksheet, "You weren't concentrating," was more of a reflection on her, than on Noah's performance. One week later, Noah, however, got a new worksheet covering the letters 'z', 'y', 'x', and 'w' (in that order). This time he had no trouble doing the exercise. For 'zinnia' he circled only the z's in the words zero, zigzag, zipper, zone, zoo, maze, graze, fuzz, zebra, glaze, etc.

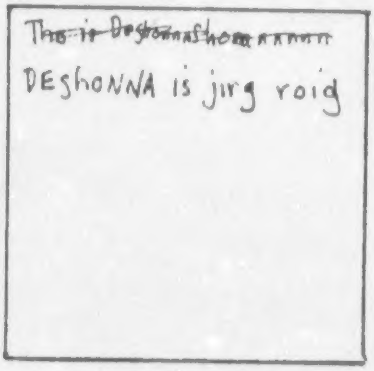
We must ask ourselves what Noah learned about reading from this experience, however. We must conclude, "nothing," though he learned a great deal about 'reading instruction'. Given his initial performance, Noah could already visually discriminate between the letters of the alphabet or he couldn't make the 'mistakes' he did. Rather than expand his capacity for language, Noah learned how to limit and channel his thinking to be successful in literacy events of this sort. Rather than reflect his cognitive abilities or literacy potential, Noah's thinking processes are best viewed as an artifact of the instructional setting in which we find him. As such one's history of literacy is a context within which and from which one must attmept to make sense of any data collected relating to the evolution of literacy.



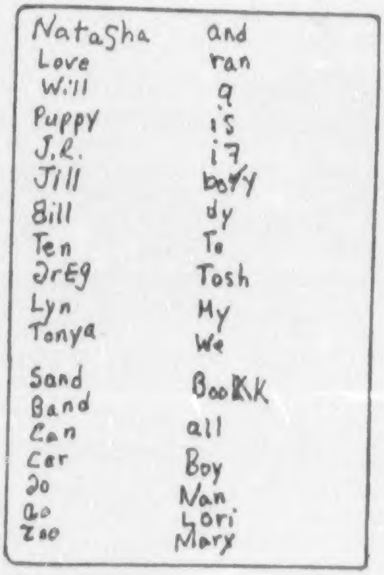
- *Deshonna, age 6, was asked to write under a number of conditions. When asked to write her name and anything else she could write, Deshonna wrote her name and then drew a picture of herself, a pumpkin, and a christmas tree. When asked to write a story, Deshonna decided to do a personal narrative piece of writing, "This is Deshonna. Deshonna is jumping rope." In rereading, she decided to cross out her first line, so her final text was a single written line: DESHONNA IS JIRG ROIG. When asked to write a letter, Deshonna wrote, "Deshonna. Love Linda.*

I like to do things for you," written DESHONNA. LOVE LIODS. I LIKE TO DO THIR FOR YOU. Under two writing conditions Deshonna elected to write; under one writing condition Deshonna elected to draw. If we had only collected writing data under the write-anything-you-can-write condition, we might have erroneously concluded that the only thing Deshonna could write was her name. We would have missed discovering that Deshonna knows how to produce an appropriate text for an appropriate context (her letter sounds like a letter; her story sounds like a story), knows her communicative options in terms of placeholding her text (the decision to use an alternate communication system is our decision also), and has a growing knowledge of directionality, letter-sound correspondence, wordness, sentenceness, and more.


DeShoNNA LoVe LiOPS
I Like To Do The Thin
for You


~~Tho is Deshonnashonnnnnnn~~
DEShoNNA is jirg roig

- Natasha, age 6, like Deshonna, was asked to write under a variety of conditions. When asked to write her name and anything else she could write, Natasha wrote her name and the following words in 2 columns on her page: love, will, puppy, J.R., Jill, Bill, ten, Greg, Lynn, Tonya, sand, band, can, car, go, do, zoo, and, ran, a, is, if, by, dye, to, Tosh, my, we, book, all, boy, man, Lori, Mary. When asked to write a story, Natasha began by drawing a picture of herself and then crossing it out again. She then wrote THEI for this, decided she didn't like it and wrote THIS IS A PUPPY on a new spot on her page. To complete her story she illustrated it with a drawing of a puppy. When asked to write a response to a letter from Jerry in which he had asked her what things she liked to play with in school and at home, she responded, "Puzzles and colors. I have lion. To Jerry," writing it in columns, PUZZELS AND CLERS I HIV F (abandoned this effort, and moving to a new column) I HIV LION TO JERRY. Like Deshonna, Natasha demonstrates an ability to create a

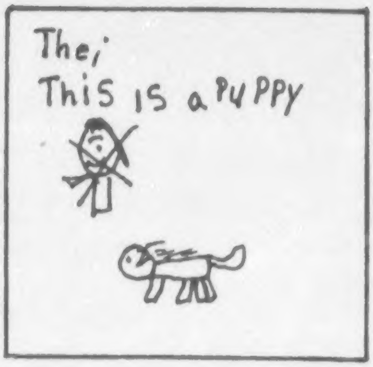

Natasha
Love
Will
Puppy
J.R.
Jill
Bill
Ten
GrEg
Lyn
Tonya

Sand
Band
Can
Car
Do
Go
Zoo

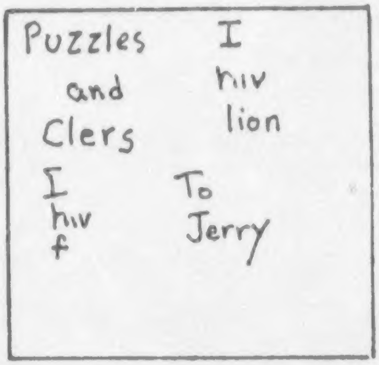
and
ran
a
is
i7
bo~~y~~y
dy
To
Tosh
My
We

BooKK
all
Boy
Nan
Lori
Mary

successful text for a particular context. Whereas Deshonna saw moving to art as legitimate in uninterrupted writing, Natasha did not explore this possibility in this setting, but unlike Deshonna does so in her story. Important also is the observation that when Natasha sees our writing condition as school-like (in the letter we mention school), her response is to write in columns indicating she has orchestrated her written product in light of this register. Under story writing, an activity which Natasha does not get to do in her first grade classroom, her writing shows no such constraints. Under write a letter conditions she writes in a full sentence organized linearly on the page.



The;
This is a puppy



Puzzles
and
Clers
I
hiv
f

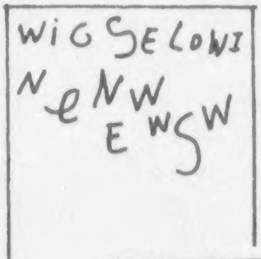
I
hiv
lion

To
Jerry

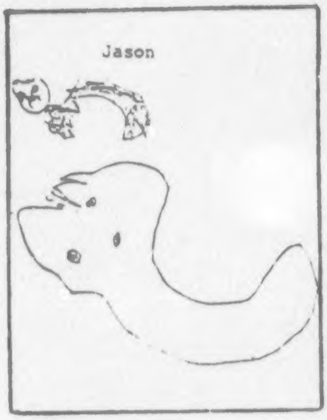
- *Jason, age 5, was also asked to write under a variety of writing conditions. When asked to write his name and anything else he could write, Jason wrote his name and the letters of the alphabet in A-B-C order.*

  When asked to write a story, Jason drew a picture of a ghost and a dog. When asked to read what he had written, Jason read, "A ghost flying through the air. A dog barking. And when the ghost saw him, he came down and bumped him on the nose!"

  When asked to write a letter, Jason wrote a series of random letters of the alphabet treating the task as a penmanship exercise. Like Deshonna and Natasha, Jason moves to art under some conditions, and writing under other conditions. Given his kindergarten focus on the alphabet, this register is dominant for Jason if the activity involves writing. If and when we ask him to write and either directly or inadvertently support this register, Jason elects writing the alphabet. Story writing is an unfamiliar school activity for Jason. Since writing the alphabet is not seen as appropriate, Jason moves to art. Importantly his story illustrates that he has a sense of storiness and in fact much better language information than he is willing to display in writing given the constraints he perceives as operating in these settings.



WIGSELOWI
NeNW
EWSW



The word 'context' contains the word 'text'. Psycholinguistically and sociolinguistically language is always whole. This is as true of the language of classrooms as it is of the language of research reports such as this. When a teacher writes the letter 'l' on the blackboard and the children respond, "la-, lion, ladder, lady," as they did in one setting in which we were observing, the rules of language use in this setting dictated the semantic rules which allowed the children to make sense of the situations. They knew to make the initial sound of the letter in isolation and to follow this activity by thinking of three words that started with that sound. The context of situation further specified the syntax of the event. From past experience the order of things to do after the teacher had written the isolated letter on the board was known. Even further the context of situation specified what graphophonemic associations were to be made. Despite the surface structure this is a whole instance of language. Language is always whole in this and other instances where more of the syntactic and semantic rules are also embedded in and hence signed in oral or written language.

Because of the relationship between text and context, finding a newspaper in a classroom as opposed to finding a newspaper on the steps leading to your house can sign widely different psycholinguistic and sociolinguistic activities to the same language user. Since both language and classrooms are inherently social, classrooms have the potential to be qualitatively natural, language learning environments in which quantitatively multiple opportunities for engagements in natural language learning circumstances could be increased. The protocol examples and discussion which follow extend and elaborate these ideas.

2.6.2 CONTEXT: INTERDISCIPLINARY VIEWS

Probably no word in the modern history of language is more maligned than is the term context. We know researchers who say they are "studying context" when what in fact they are studying are 3 and 4 word syntactic strings. Some of our reading teacher colleagues refer to helping students read by using "context cues," meaning for the most part the syntactic and semantic cues which reside in the immediate line of print. The fact that they have stripped the line of print from its textual and situational support to teach "context cues" never seems to give them a moment of concern.

Just as teaching is too good a term to be reduced to some narrow reductionistic stimulus-response framework, so "context" and "research on context" is too important to our understanding of language and language learning to be lost in reductionistic research and practice.

While some might wish to label researchers and theorists who perceive context beyond 4 word syntactic strings as "radical contextualists," recent work in this area would suggest that contextual studies at these levels are eminently more helpful in our attempt to understand literacy than are reductionistic efforts which do more to confuse the issue than clarify it.

We use the term context to refer to the linguistic, situational and cultural milieu of language in use. Key dimensions of this context have been described by Halliday (1978) as field (what's happening), tenor (the relationship of the parties involved), and mode (the channel of communication used with specific reference to the role language plays in the overall communicative event).

From past encounters with language in a particular context of situation, language users bring with them an anticipatory frame for how language works in this particular context. This anticipatory frame has been termed register by sociolinguistics like Halliday (1978) and Hymes (1971). While Cicourel (1974) would not deny that on one level register is an anticipatory frame, he would vehemently hold that the specific register of a language event evolves throughout the event via application of interpretive procedures by the language participants involved. Cicourel's insight is an important one as it suggests that register is not totally formulaic, but changing; a construct helpful in understanding how what was supposedly an informal meeting suddenly turned into a formal interchange, sometimes even to the chagrin of the participants involved.

Cicourel's work on interpretive procedures (1974) and Grice's work explicating the cooperative principle of language use (1975) do much to explain general registers which language users bring to a languaging event.

While at present researchers do not know what all of these interpretive procedures are, Cicourel's list includes (1) reciprocity of perspectives (language users assume there is no difference between how they and their participants assign meaning); (2) et cetera assumptions (language users assume their participants will fill in common details); (3) normal forms (language users attempt to interpret anything ambiguous by making restatements of ambiguity congruent with the other forms used); (4) retrospective-prospective sense of occurrence (language users will attempt to see if ambiguities are clarified later on, or if this is not possible, attempt to clarify them in light of previous statements); (5) the reflexive nature of language (language users will use the specialized vocabulary selected by their participants as clues to how something is to be interpreted).

Additionally, Grice (1975) has identified what he calls the cooperative principle of language. There are four maxims to the cooperative principle which can be interpreted as underlying assumptions within which language participants operate. These are Maxims of (1) Quantity (say or write enough but not too much), (2) Quality (say or write what you believe is true and provide evidence); (3) Relation (say or write what is relevant), and (4) Ambiguity (say or write to avoid obscurity, i.e., be logical). Because language users know that their cultural participants understand these maxims, meaning can be and is signed through what Grice calls "implicature," or the deliberate breaking of these rules.

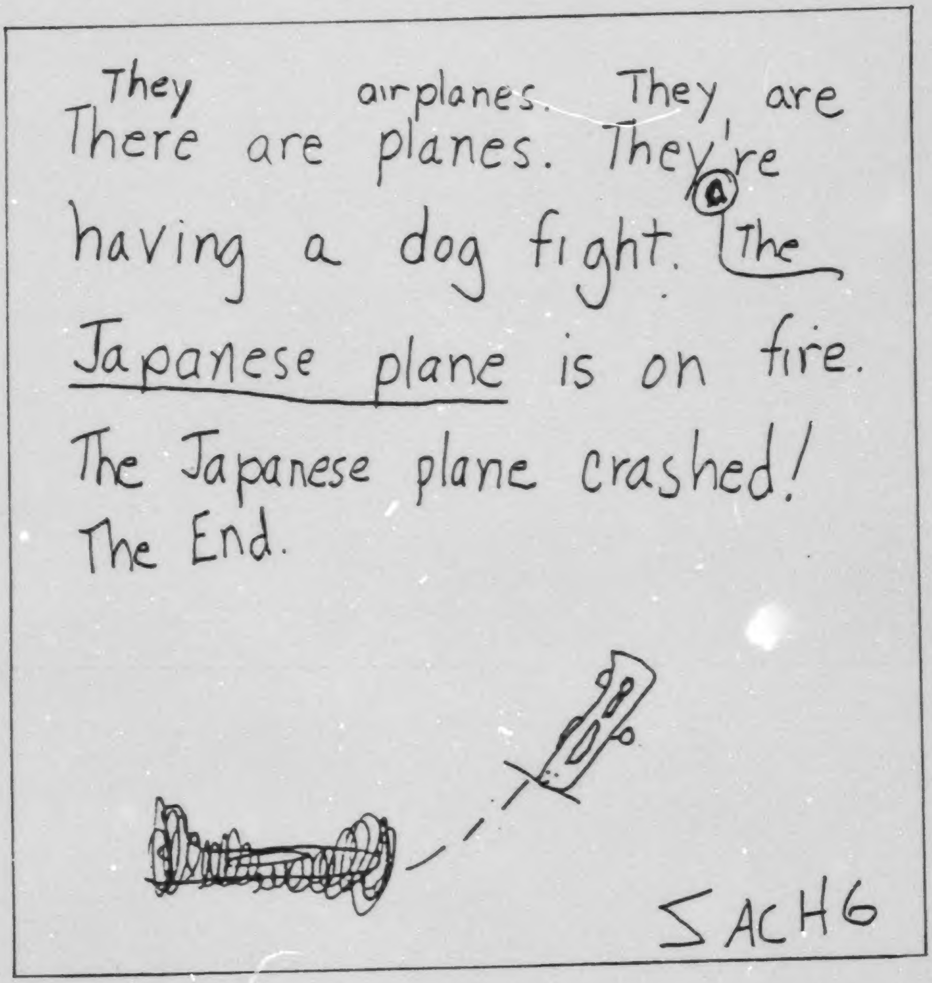
Within these general frames, specific registers for language events develop. Recent work by Hasan (Halliday & Hasan, 1980), for example, begins to explicate the register language participants have in shopping at the "Greengrocer," an equivalent probably to a family-owned neighborhood food store. As Cicourel (1974) and Corsaro (1980) point out, however, not only do language participants bring with them an anticipatory frame relative to their past readings of field, mode, and tenor in this and similar language settings, but refinement of the register takes place via the language user's on-going reading of field, mode, and tenor during the languaging event itself. Thus register is not a static concept but an ever evolving one. Theoretically this notion is important as it suggests the value experience plays in language learning.

When young children's literacy responses are examined for evidence of context one is immediately impressed with the young child's sensitivity to language variation and change. Typical of our data is Zach. In the following dictated story (see Figure 27), the corrections that Zach initiated in the re-reading indicate an understanding of the functional differences between an oral story (his dictated version) and a written story (his miscued version). "There are planes" is an oral language form. "They are airplanes" is the more formal written language form and reflects Zach's knowledge of how written language texts differ from oral language texts. "They're having a dog fight" is an oral language form; "They are having a dog fight," the more formal written language form.

Theoretically we might say that Zach's behavior demonstrates that he had already developed one register for oral story forms and another register for written story forms. In each of these instances, Zach's reading of elements within the context of situation helped him bring to memory past registers which he saw as appropriate. Operating within a general anticipatory frame (which included his understanding of the interpretive procedures of language, the cooperative principle, and these past registers), Zach's particular reading of the field, mode, and tenor of the alternate contexts available under a condition of oral story dictation as opposed to oral reading allowed him to make particular shifts in register which reflect themselves in text.

Embedded in text is context. The reason all of us can successfully answer questions like: (1) Where are you likely to find this instance of language? (Field); (2) Is it oral or written language? (Mode); and (3) For whom and by whom is it produced? (Tenor), for language fragments such as "On your marks," "From here take the path north," and "Raise your hands please," is that embedded and hence signed in text are the register shifts reflective of and appropriate to context.

Figure 27. Dictated Language Experience Story & First Reading--Zach (Age 6)



They airplanes. They are
There are planes. They're Ⓐ
having a dog fight. The
Japanese plane is on fire.
The Japanese plane crashed!
The End.

ZACH6

Key:

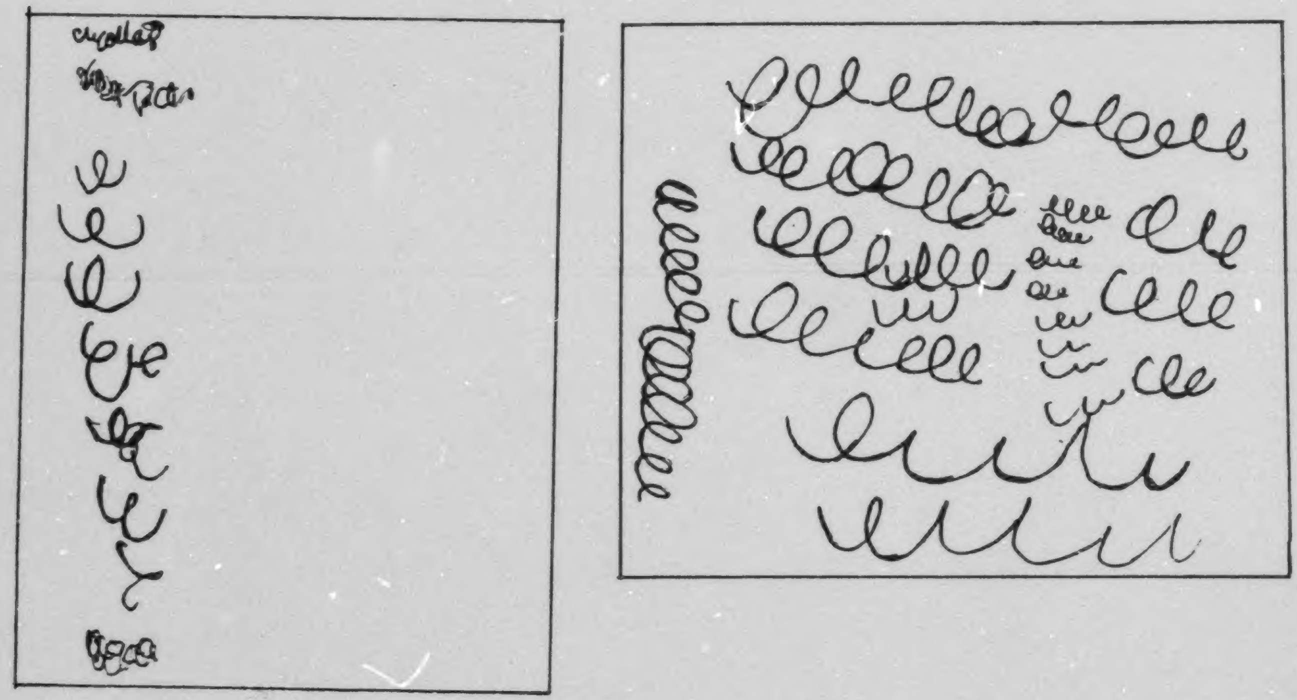
They
There - substituted they for there when reading.

Ⓐ - repeated phrase in reading.

Shifts in register allow language users to produce appropriate texts for appropriate contexts. Zach has, via shifts in register, produced an oral language text (his dictated story) and a written language text (his reading). These are not alterations in form so much as they are different texts. Zach is a kindergarten child about to enter first grade. His subtle understanding of language is truly impressive.

Figure 28 presents a shopping list and a story which Hannah, age 3, has produced. Can you identify which is which?

Figure 28. Uninterrupted Writing
(Shopping List & Story)--Hannah (Age 3)



What Hannah demonstrates is that the linguistic understandings we have been discussing are not added onto language after some more elementary forms are learned, but rather are essential understandings underlying access to the literacy process. Nancy Shanklin (1982) expresses this insight more formally:

> Thus, language has no real meaning separate from the environment, i.e., the context of situation in which it is used; therefore it would seem than language and the nature of schematas are intrinsically related to the context of situation in which they occur.

Because of the extensiveness of our research program we had ample opportunity to study and discover for ourselves the importance of context relative to understanding and researching the evolution of literacy. Alison's writing at home and at school provides an illuminating first instance.

Mary Hill, an early and on-going colleague in this program of study, used Alison as a subject in her longitudinal study of young children's evolution in writing (1979, 1980). At around 5 years of age, Alison's stories took on a familiar pattern which Mary readily accepted (see Figure 29). This continued to be true even though at home Alison wrote using an alphabetic script. At home, on the very day that Alison had produced the second sample in Figure 29 for Mary, in response to the suggestion that she write on a finger puppet she had cut out from paper, "What makes you happy," Alison wrote MN I C FLOMRS ("When I see flowers").

She moved so rapidly from a place-holding script to alphabetic script that we were stunned and forewarned Mary that she was in for a surprise on her next data collection day.

Figure 29. Uninterrupted Story Writing Examples--Alison (Age 5)

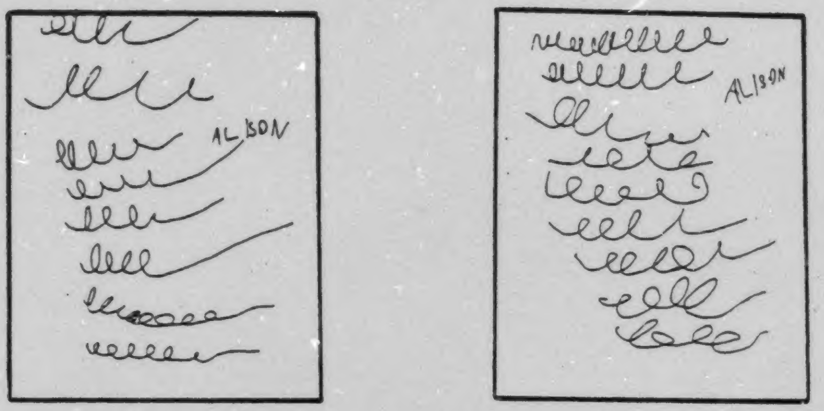
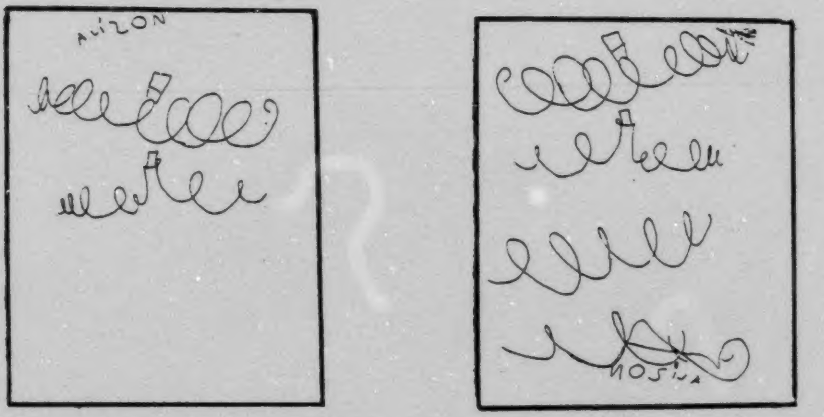

ALISON
ALISON

Figure 30. Uninterrupted Story Writing Samples--Alison (Age 5.6)



But alas, for Mary, Alison continued to write stories like she had in the past (see Figure 30). This occurred not only once, but for several pursuing weeks.

What had worked in the past became the register of the present. For each context Alison had developed an appropriate register. Alison knew and understood the constraints that were operating in both settings.

She knew that Mary accepted her stories, and while this did not stop her from messing around with a sure thing as we'll show later, moving from a place-holding script to an alphabetic script was not one of the things she elected to do in this setting.

During the early years of this research effort, we like many of our colleagues became quite fascinated with "invented spelling" as a product documenting the rule-governed nature of the young child's approach to literacy. As the age when we expected such a move to occur for Alison, we obviously, though not purposefully, communicated this expectancy. Alison, at 5.6, obliged, though equally obviously she saw no reason, in settings where other constraints were operating, to test this particular set of hypotheses in this form.

While such sensitivity to context may initially surprise us, given the fact that semioticians have documented (Sebeok, 1979) the fact that Hans, a horse, was reading the pupil dilations in his master's eye in order to know when to stop tapping out the answers to addition problems--the Clever Hans Phenomenon--we should have no trouble believing a child the same age as a horse is even more sensitive to context. What seems surprising from one theoretical position on language looks eminently predictable from another.

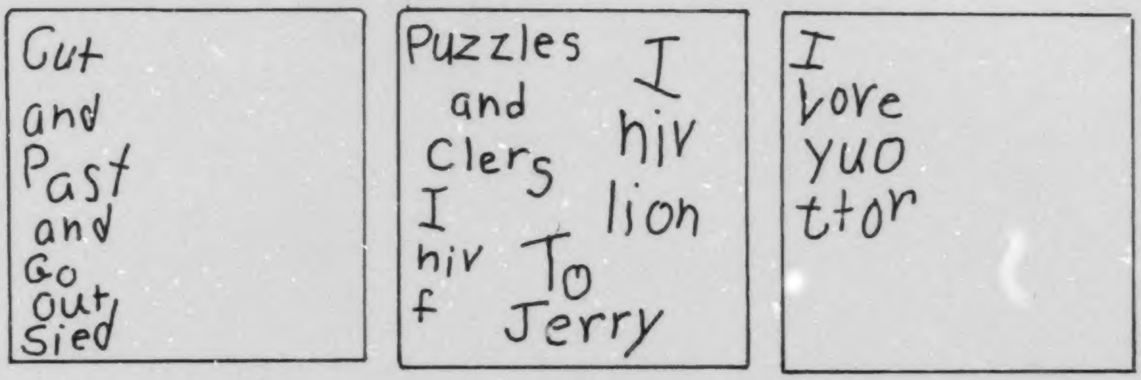
From a research perspective, the importance of this experience lies in the fact that it clearly illustrates the difference between a psycholinguistic and a socio-psycholinguistic view of language use and learning. All language settings are not equal. To continue to collect developmental data with a blatant disregard for context can in the end only confuse us and do a disservice to children. Even Piaget's developmental statements, Margaret Donaldson teaches us (1978), merit close review. As educators, we know, statements emanating from such research all too often become the unexamined and assumptive frameworks of instruction. Language varies for each of us by situational context, and while we intuitively know this, it takes a sensitive observation of children and their writings for us to rediscover the applicability of this principle to written language learning and instruction.

How language use varies across instructional contexts is a contextual issue which pushes our very notion of what is basic in literacy and literacy learning. Our Indianapolis sample of inner-city informants came from a single geographical area which included several preschools and elementary schools. Within particular age levels we had children, then, with distinct school writing histories. Because we collected our videotapes on site--though in special rooms set up solely for data collection purposes--and because, we suppose, we looked like teachers, often the constraints that operated in the classroom writing context became assumptive constraints operating in our research task.

In one particular school, children were taught to write in columns on lined-school paper, a practice done, according to the teachers when interviewed, "to help them in forming their letters and in learning the difference between letters and words."

As shown in Figure 31, even in our letter writing task, first graders from this school maintained this writing form.

Figure 31. School A: First Grade Letter Writing Samples--
Alanna, Natasha, LaShell



Cut
and
Past
and
Go
out
sied

Puzzles
and
Clers
I
hiv
f

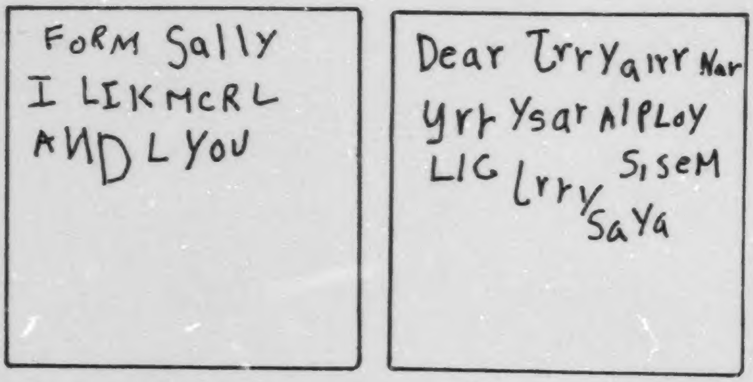
I
hiv
lion
To
Jerry

I
Love
yuo
ttor

That this is clearly something learned in first grade in this school is evident when one examines the letters which kindergarten children in the same school produced. As shown in Figure 32, Sally and Alpha's letters show no such constraint on form.

In School B, no such formatting criteria had been taught. Though the quality of the letters remains much the same (see Figure 33), indicating, as we will show later, a commonality of other constraints operating across both settings, this formatting constraint is not one of them.

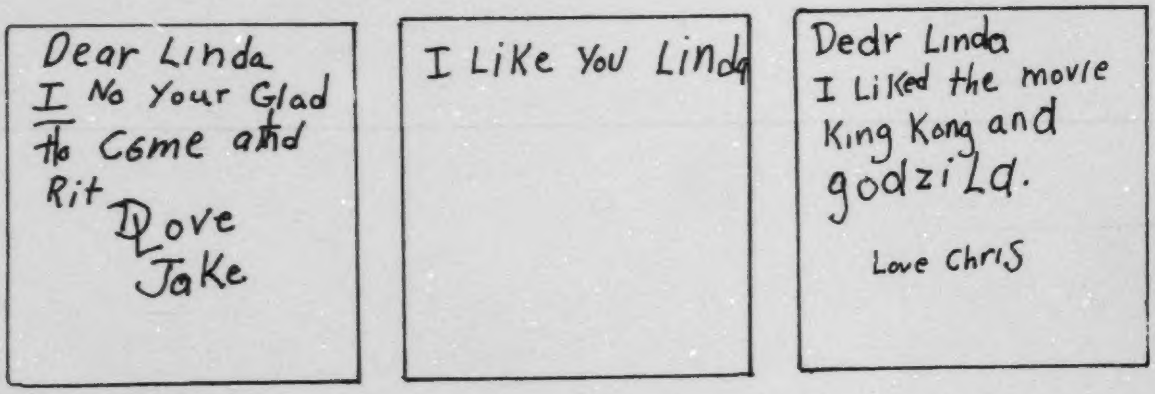
Figure 32. School A: Kindergarten Letter Writing Samples-- Sally, Alpha



FoRM Sally
I LIKMCRL
AND L YOU

Dear Lrry aIrr Nar
yrr Ysar AlPLoy
LIG Lrry SiseM
SaYa

Figure 33. School B: First Grade Writing Samples-- Vincent, Jake, Chris



Dear Linda
I No Your Glad
to Come and
Rit
Love
Jake

I Like You Linda

Dedr Linda
I Liked the movie
King Kong and
godziLa.
Love Chris

Of particular interest also is the fact that once a certain constraint was in effect, it seemingly affected other decisions which the children made. Note, for example, that the first grade letters collected from School A are qualitatively different than the letters collected from School B. By contrast, the first grade letters from School B seem much more well formed than do the first grade letters from School A. In School A, the first graders seemingly had taken Cicourel's interpretive procedure--the et cetera assumption--much too literally, not bothering to sign letterness via an opening, a closing, nor for that matter, even, a respectable amount of redundancy.

This phenomenon is particularly important, especially in light of the fact that kindergarten children in the same school do not seem to suffer from an "et cetera deficit." Note, for example, that the letters from kindergarteners in School A look more like the letters from first graders in School B than they look like the first grade letters from their older and wiser peers in the same school.

What this phenomenon suggests then is the notion of transaction. Constraints are not additive, leaving everything else the same, but transactive, altering the total composition of the event. Shanklin (1981) uses the metaphor of putting a drop of red dye in a beaker of water to discuss the notion of transaction. By establishing formatting constraints first grade children's knowledge of the personal letter form as well as their handling of exophoria--text-context embeddedness--changes.

Probably first graders in School A assume that if their teachers are so concerned about the shape and form of letters and words so as to give explicit instructions, each additional entry they write, even when and if they have better linguistic information at their disposal, adds risks which are unnecessary, especially if the teacher's concerns are on quality of penmanship, not quality of writing. A second possibility also exists and that is that by accenting any particular constraint, attention and short term memory are filled making access and testing of other linguistic hypotheses unlikely. Both of these effects seem deleterious to the evolution of literacy.

It should be noted that what is highlighted in these examples are the transactional effects of imposed constraints on language learning. Whether from a language learning perspective we approve of such imposing of constraints is important; but regardless of our stance, the fact remains that a viable model of literacy must be able to explain both more productive and less productive instances of language learning.

Given the pervasive effects an imposed constraint dealing with something as simple as format can have on the writing process, we must predict that this effect will only be compounded as more writing constraints are added by the first grade teachers in School A. Alison, who we can document (Harste & Burke, 1980) had been a written language user and producer from the age of 3, entered a very skills centered first grade reading and writing program. Despite the fact that she had been writing for years, by November when requested to write at home, she announced amidst tears, "But I can't write anymore!!"

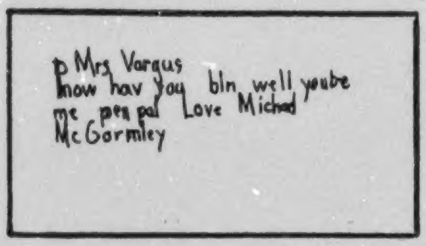
The compounded effects of form and spelling convinced her that all she had learned was somehow not useful; or, worse yet, wrong. While we very rapidly moved her beyond this moment of doubt by assuring her that she had been writing for years and that we could read anything she wrote, the effect of suddenly imposing constraints on the young child as writer in less supportive environments clearly merits a full scale investigation. We used to think that if they were off to a good start in literacy they could withstand any negative school experience. We don't think so any more.

That such effects need not be the outcome of instruction when constraints are allowed to develop naturally over time is best illustrated when letter writing across time is studied. Nanci Vargus (1982), one of the later members of our research team, corresponded with a group of first graders over the course of a semester. The in-depth study of how these children's letters changed over the course of the semester became the focus of her dissertation.

As one compares the letters we received from first graders (Figures 31 and 33) with the first letters which Nanci received, there are many similarities. As is illustrated in the examples we provided, many letters seem long on form and short on context (LaShell & Vincent). Most deal with a single topic (Alanna, LaShell, Vincent, Jake, Chris), answer questions directly assuming a continuity of context across what we see as events (see Alanna's "Cut and paste and go outside" in answer to the question, "What things do you like to do in school?"), and communicate little new information.

While the first letters which Nanci received look a lot like the letters we received, the changes over time which occurred as result of her continuing to correspond are impressive. Michael's 1st and 9th letters are illustrative (see Figure 34). Not only do the letters become longer, but topic expansion and a shift in responsibility occur. Children no longer take refuge in ritualistic form and the answering of questions posed by their correspondent, but take ownership and responsibility for generating and communicating new information.

Figure 34. Michael's 1st and 9th Letters (Vargus, 1982)

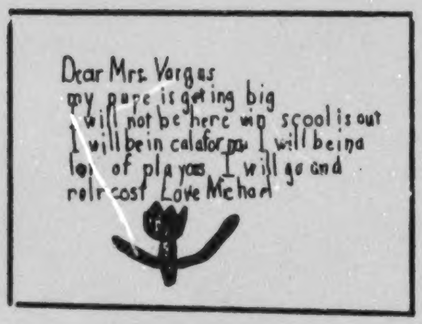


to Mrs Vargus
how hav you bln well yoube
me pen pal Love Michad
McGormley

to Mrs. Vargus

How have you been?
Will you be my pen pal?

Love Michael McGormley



Dear Mrs. Vorgas
my pupe is geting big
I will not be here win scool is out
I will be in calaforna I will be in a
lot of playas I will go and
rolr cost Love Michal

Dear Mrs. Vargus,

My puppy is getting big.
I will not be here when
school is out. I will be
in California. I will be
in a lot of places. I will
go on a roller coaster.

Love
Michael

The importance of this data is that it clearly demonstrates how register evolves and changes over time. While first grade children in our study and Vargus' demonstrated that they had a particular register for letter writing even in their first letters, what continued involvement permitted was register expansion and exploration. Their letters seemingly move from high on form to high on content; yet, given the circumstances surrounding their 1st letter--a stranger whom they barely know, it should not surprise us that they have little to say or little basis other than the letter they had just received on which to make decisions about what to say. What looks like deficit is more a statement assessing their perception of our research context than it is a comment on the capabilities of these young writers.

Theoretically we might say that when language users are thrust into an unfamiliar context they take refuge in those past registers which provide the closest fit. To be successful in this new situation they rely on text-context rules which they have abstracted out of past experience as characterizing language use in this setting. Within this frame, what time does is allow language users the opportunity to more carefully attend to and orchestrate aspects of the specific field, mode, and tenor of the situation in which they are involved. As constraints naturally evolve and become perceptible, rather than restricting communication as imposed constraints do, they permit expansion of meaning potential.

Understanding this transactive relationship between context and meaning is important. What experience provides is potential; not only the opportunity to explore text potential, but in so doing, more fully to appreciate, to orchestrate, and to unleash human potential. That's what real literacy is all about.

Context has often been mistreated as a variable which affects linguistic output. The cuts we have taken across our data in an attempt to explore context--with Zach by linguistic mode, with Hannah by literacy event, with Alison across home and school--show it to be not a variable but a transactive and transacting part of the literacy process and sign. Text and context transact, together signing past and potential forms of psychological and sociological action. If Michael had written, "Will you be my pen pal?" in his 9th letter as he did in his 1st, the print only superficially would have remained the same; the text potential and hence meaning potential would have changed. To study text in isolation of context is at best to study only half the sign; at worst, to hopelessly confuse what's involved in scribbling and other literacy events.

2.7 TEXT

2.7.1 TEXT: THE YOUNG CHILD AS INFORMANT

From a cognitive processing perspective the basic unit of language is 'text'. 'Text' presupposes a reader or a writer actively involved in chunking and making sense of experiences involving language.

- *Latrice, Marvin, Nathan, Terry, Patty, Towanna, Shannon, DuJulian, Robert, Jerry, and Heather, all age 3, were shown a photo of a Stop sign and asked what it said. Their responses respectively were "Stop," "Stop," "Stop," "Go This Way," "Stop," "Stop," "Don't Pass The Sign," "Stop," "Danger," "Stop," "Stop," and "School."*

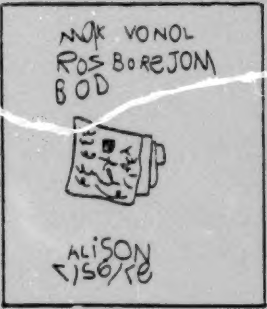
  What is interesting about this set of responses is that they all represent things one might find on street signs. They are, in other words, the right text for the right context.

  To note that there is little or no graphemic involvement between some of these responses and the word Stop is to miss the textual event. Even responses such as "Danger," "Go This Way," and "Don't Pass This Sign" are the right kind of print semantically and syntactically; the right amount of print, organizationally, for this context.

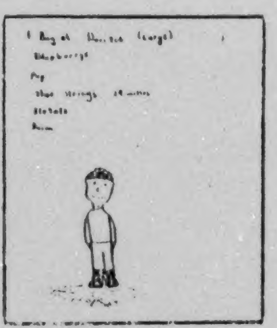
Print Setting:

Stop
Stop
Stop
Go This Way
Stop
Stop
Don't Pass The Sign
Stop
Danger
Stop
Stop
School

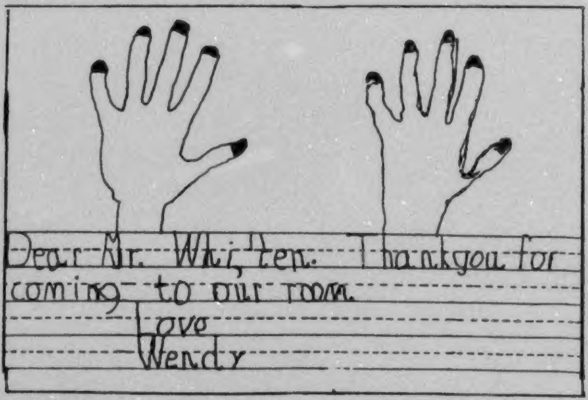
- *Alison, age 6, but just prior to first grade, was asked by her father to prepare a shopping list as he finished the dinner dishes. Alison wrote each of the following items as they were dictated: MOLK (milk), VONOL (vanilla), ROSBOREJAM (raspberry jam), and BOD (bread). When she was asked to write "newspaper" she asked, "Can I draw that?" After Alison was assured that no one cared as long as we remembered the newspaper when we went shopping, she proceeded, drawing a newspaper replete with columns and layered sections of paper. On the bottom of her shopping list she signed her name and wrote the date 7/26/78.*



Like all of us, as a writer Alison was faced with producing a successful text given a particular context. Her decision to placehold her meaning in art as opposed to writing is one which we as adults may not often consciously select when making a shopping list, but is clearly available to us should we wish to use it. Her question as to whether or not this move was alright reflects a concern for text and the appropriateness of this move given the communal function which this shopping list had to serve. While not everyone signs and dates their shopping list, this too, is predictable given the constraints Alison was operating under. As a subject of a 5-year case study, Alison knew we dated and put her name on all of her written work. Her signature and dating of even such items as shopping lists, while to the outsider may appear bizzare, is, in this instance, an attempt to create a successful text in light of the constraints under which she was operating.

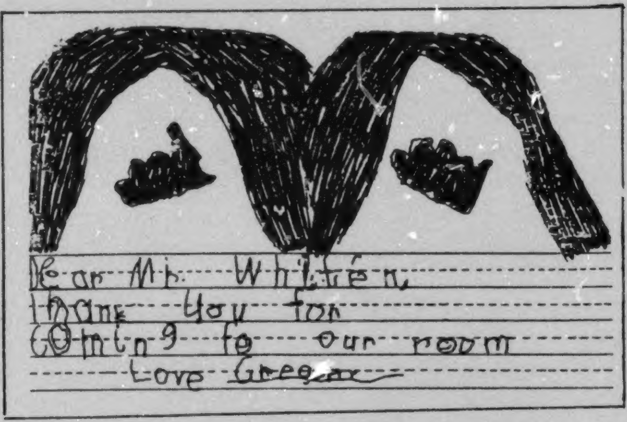


- *Jason, age 9, was asked by his mother to start a shopping list by writing 'blueberries' and 'bacon' on it. He dutifully and literally hopped to the task. The list he prepared was a masterpiece of tidiness replete with the drawing of a sweet angelic child. In addition to his mother's entries, the shopping list had several additional items, however: 1 BAG OF DORITOS (LARGE); POP; SHOE STRINGS 29 INCHES; and KLETATS to indicate that he wanted a new pair of soccer shoes with 'cleats'. Anyone looking at this shopping list would know immediately that it was no ordinary list. Jason had created a surface text for a particular context. Through art, penmanship, and the placement of requests on his list, he had orchestrated available cues to create a text which he hoped signed not only his wishes, wants, and desires, but spoke of his fine character.*



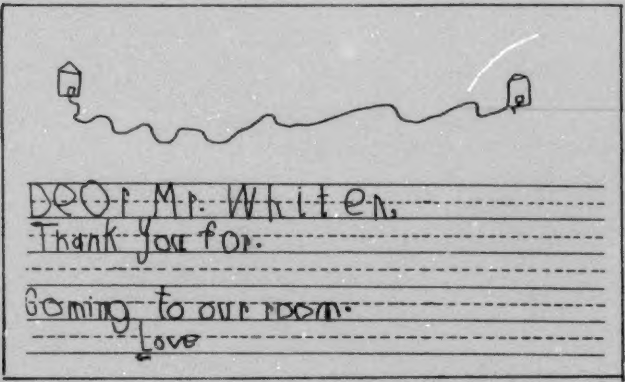
Dear Mr. Whi,ten: Thankyou for coming to our room.
Love
Wendy

- *Lisa, Wendy, Gregory, Tom and Brett, age 6, were asked to write Mr. Whiten, Brett's father, a Thank You letter for having come into their room and told stories. Rather than allow the children to*



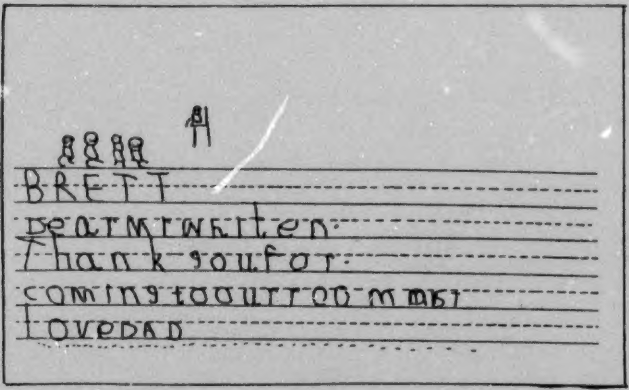
Dear Mr. Whiten,
thank you for
Coming to our room
Love Grego[illegible]

write their own letters, the teacher wrote the following letter on the blackboard: "Dear Mr. Whiten: Thank you for coming to our room. Love ____________." Each child was given a sheet of school paper and asked to illustrate their page, copy the letter, and sign their

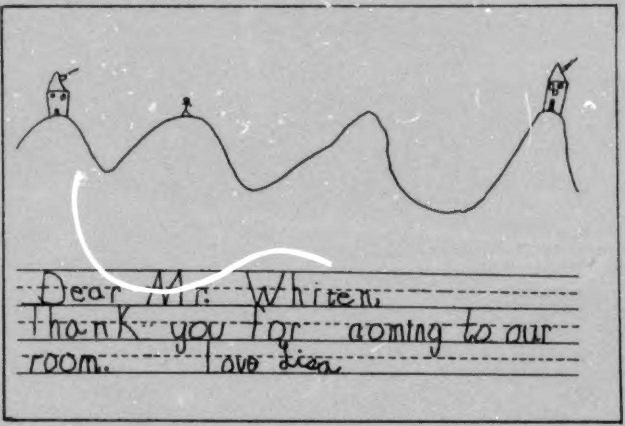


DeOr Mr. Whiten,
Thank You for.
Coming to our room.
Love

name. Lisa, Wendy, Gregory, and Tom had no problem with the task. Brett, who had quite a different relationship to the speaker, being it was his father, found the "Dear Mr. Whiten" structure awkward. In the blank left for his name--the only slot left open to him by the teacher, he wrote DAD rather than sign his name.

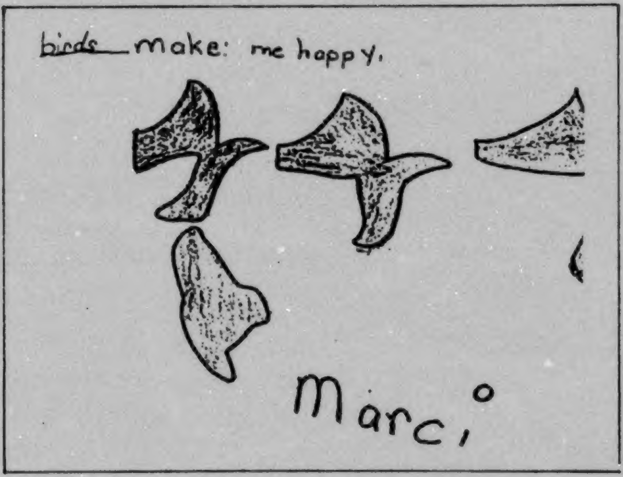


BRETT
DearMrWhiten.
Thank youfor.
comingtoourroom m[illegible]
loveDAD



Dear Mr. Whiten,
thank you for coming to our
room. Love Lisa

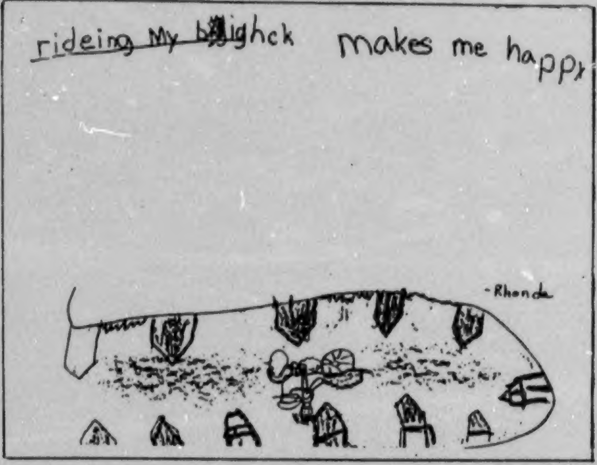
The texts we create vary by context of situation in which we find ourselves and reflect the tenor of social relationships we have with the parties involved. Although we seemingly forget this, Brett demonstrates that he already knew this and refuses to simply comply. To focus on, or teach form and structure in language outside of context is to miss the orchestrated textual event which language use represents and is in the end to give children a dysfunctional view of the process.



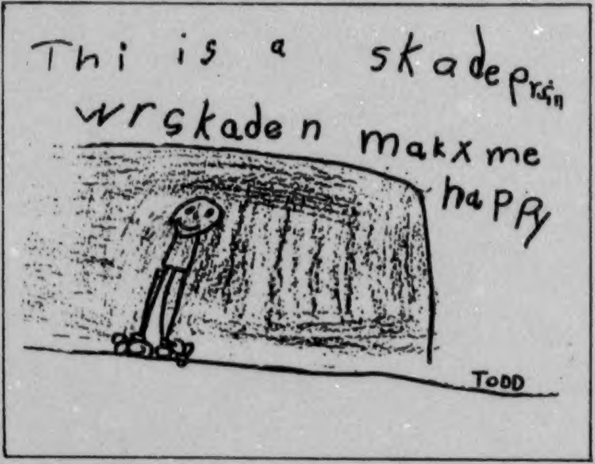
birds make: me happy.

Marci

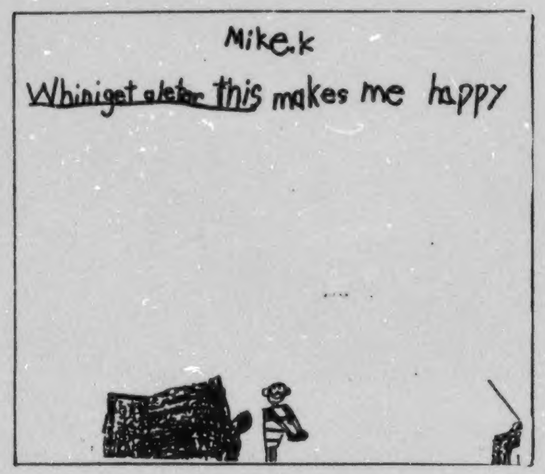
- *Marci, Rhoda, Todd, and Mark, all age 6, were asked to complete the sentence, "(Blank) makes me happy," as a writing activity following a discussion of 'happiness' in their first grade classroom. Marci handled the assignment well writing BIRDS MAKE ME HAPPY. Rhoda had more problems. She initially wrote MY BIGHCK (bike) MAKES ME HAPPY. In rereading her effort, she decided it wasn't a text and so added RIDEING (riding) to the front of her structure. The final product read RIDEING MY BIGHCK MAKES ME HAPPY. Todd's strategy was more evident. THIS IS MA SKADEPRSIN (skate person) WRSKADEN (roller skating) MAKX (makes) ME HAPPY. Todd initially had written, "Roller*


rideing My bighck makes me happy
-Rhonda

skating makes me happy"; his addition of "This is a skate person," suggests the cruciality of text to making sense of this task. Mark initially wrote WHIN (when) i (I) GET A LETER (letter) as his original contribution. In rereading, Mark decides "When I get a letter makes me happy" isn't much of a text. To solve this problem he adds THIS so his final text reads, "When I get a letter this makes me happy."



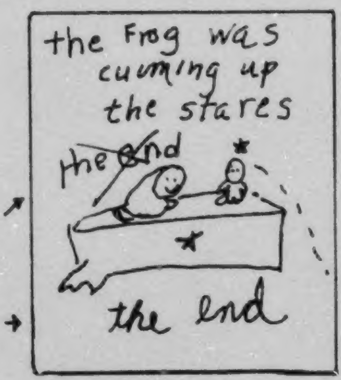
In his search for text, Mark discovers clausal ellipses. What these data suggest are that text is a basic unit of language and that taking responsibility for the creation of text is much easier than taking someone else's partial text and trying to make a text out of it. The partial text structure, "(Blank) makes me happy" proved harder to deal with than would have a blank sheet of paper on which these children could have written their own text. By trying to simplify language we make it more difficult in that we add yet another


Mike.k
Whiniget aletor this makes me happy

constraint which too must be dealt with and orchestrated in responding. Since under normal conditions we do not need to work within someone else's partial text conditions, we often, while having the best intent, make writing instruction more difficult than just writing. The teacher in this instance had each of the children illustrate their texts and had wanted to use them to create a bulletin board on the theme 'happiness'. Her decision to give the children the sentence frame "(Blank) makes me happy" was done, no doubt, to support the literacy process and insure a set of usable products for the bulletin board. It's important to know that if practices such as this one are to continue they must be justified on the basis of our adult needs for tidiness, not because they support literacy learning.

As a unified chunk of meaning, 'text' has both logical (propositional) and paralogical (non-propositional; affective) dimensions. Literacy learning not only always involves these two dimensions, but is characterized by a search for unity across them, and other texts which have been created.

- *Robert, age 6, elected to write a story to go with the wordless book, A Boy, A Dog, and a Friend (Mayer, 1961). On the final page in his book he wrote "the end" in black pen. Rescanning his work, he crossed it out, grabbed a color crayon, and wrote "the end" in a bold golden colored script. "There," he said, "I wanted a rich ending."*


the Frog was cuming up the stares
~~the end~~
the end

Given an opportunity to placehold his text in writing, Robert, like any writer, has to be concerned with signing one's meaning. By using a combination of color and print, Robert overcodes his writing so that it better signs what Robert meant. Whether or not another language user will read all of these signs is, of course, another issue. Robert, like the Impressionist painters who signed tree by putting blobs of paint together to capture and sign light reflections when the conventional sign of the times was different, is essentially faced with the problem of convincing the world of the value of his sign. The gold lettering of "the end" to Robert signs a rich ending and is an instance of semiosis. If and when Robert convinces other members of his interpretive community to read the sign as he does, his personal convention will have become public. Since gold in this society has already a rich coding, Robert demonstrates how convention serves invention and propels both our and Robert's literacy.

- *Alison, age 3, knew that her father often carried children's literature books home in his briefcase. Whenever he arrived home Alison would immediately open his briefcase and look for books which she might have him read. One day instead of a children's literature book, she pulled out a basal reader. As always she brought the book over to be read. The story they selected was about a baby monkey who wanted to know what he looked like. Whenever he asked his mother, she would respond, "You are baby monkey. You look just like what a baby monkey should. You are very beautiful." The story builds on this pattern and so as baby monkey sees other baby animals he always asks if this is what he looks like, and his mother always responds, "No, you are baby monkey. You look just like . . ." Because the book was a teacher's edition of a basal reader, at the bottom of each page was a set of comprehension questions. Since Alison's father was as interested in comprehension as anyone else, he decided to ask Alison the questions suggested by the authors of the basal series as he read the book. Alison was on his lap sucking her thumb. When he finished the first page he asked, "What did Baby Monkey want to know?" Alison pulled her thumb out of her mouth and responded rapidly so as not to break the pace of her thumb sucking, "What he looked like." "And what did Baby Monkey's mother tell him?" Again Alison pulled out her thumb, "You look just like a Baby Monkey should." "And what do you think will happen next in the story?" At this point Alison extracted her thumb once more, and with body tense and fists clenched shouted, "O-O-O-O-O-Oh-h-h . . . READ!!!"*

For Alison the questioning her father was doing was an interruption in the process of reading. Alison wanted to get on with reading, building a text world and living within it. The questions being asked by her father were an interruption; they lay outside of what the reading was all about. It is also interesting to note that

> *Alison responded with emotion. Her "O-O-O-O-O-O-Oh-h-h-h . . . READ!!!" is overcoded with affect. How the book was read was affecting and coloring her lived-through textual experience.*

- *Alison, age 4, was shown a paper cup from Wendy's and asked "What do you think it says?" Alison responded, running her finger under the word, Wendy's, "Wendy's" and running her finger under the word hamburgers, which also appears on the cup in bold print, "cup." Alison paused a moment after producing her response, as if in reflection, and responded, "That's a long word with a short sound."*

> *The rules which Alison had obviously formulated is one that says that the sound of the word has some correspondence to the length of the word in written form. Given everything she knew about print in relationship to context, this word should be "cup," and she concludes, "That's a long word for a short sound." Her decision here, from our perspective, is incorrect. In the long run, however, it is not. Need we help here? Not in a traditional corrective sense. All we need to insure is that she has continuing encounters with the process, for each encounter will allow her to test out the validity of her new hypothesis that sometimes no one-to-one correspondence exists between the graphemic length of a word and the phonetic length of the word.*

> *From a cognitive processing perspective, what Alison's response indicates is a constant search for text. When reflecting, Alison is shifting psychological stances and becomes a monitor of her own participatory activities. In this role of monitor she looks at her current performance in light of what else she knows about language. This process represents a search for unity across this experience and other experiences she has had. It is this process of intertextual tying or the search for intertextuality which is a major driving force in literacy.*

Since writing does not entail simply taking what we know linguistically and translating this into written language, nor reading, taking written language and simply translating this into linguistic thought, but involves other than linguistic ways of knowing. Semantic negotiation is a central characteristic of the psycholinguistic process involved in text creation. Such psycholinguistic activity takes place within the context of our personal histories of literacy which include the past texts which we have created to chunk and make sense of our world. The search for unity within the evolving text and with past texts creates psychological tensions which propel the reading, writing and learning processes. The protocols and discussions which follow examine these ideas conceptually for purposes of understanding literacy and literacy learning.

2.7.2 TEXT: INTERDISCIPLINARY VIEWS

As a result of multidisciplinary work in reading specifically, we might characterize the last ten years of text research as having begun with a view of "text as object," moving from there to a view of "text as event," and finally to a position which views "text as potential." Importantly, these shifts in perspective constitute changes in the profession's notions as to what is involved in literacy.

When text is viewed as an object, literacy is seen as a process of information transfer. Readers and writers are viewed as more or less faulty vessels. Good readers are defined as persons who reconstruct all implicit and explicit meaning (Adams & Collins, 1978). Good writers are defined as persons who are able to transcribe meanings from their heads to paper in conventional form.

From this perspective texts can be rated, and readers and writers baited. And they often are. Current studies in cohesion (Halliday & Hasan, 1976; King & Rental, 1981), syntagmatic and paradigmatic overlap (Fries, 1980), transitivity relationships (Fillmore, 1976; Kintsch & van Dijk, 1978), ideational structure (Meyers, 1975, 1979; Stein & Glen, 1978; Anderson, 1978) and propositional explicitness (Frederickson, 1975, 1977, 1978) are representative.

When text is viewed as an event, literacy is seen as a psychological and sociological partnership. Meaning is not something inherent in the print, but created in and through interaction. Text moves from being something on paper to being a psychological and sociological event. Anderson, Reynolds, Schallert and Goetz (1977) show that what a reader brings to print strongly affects what is gotten out of print. Carey, Harste, and Smith (1981) show that the situational context within which that event takes place contributes to schematization and hence meaning. How meaning evolves in texts (Kintsch & van Dijk, 1978) and in classroom events over the course of time becomes a major area of study (Mehan, 1979; McDermott, 1976, 1977, 1979; Greene & Wallet, 1978; Feathers, 1980; Siegel, 1980).

Just as studies of text as object led to and supported viewing text as event, so studies of text as event have led to and supported viewing text as potential. Text as potential is meant to capture not only the notion that text is an in-head phenomenon but that it is ever changing. What is out there is a "text potential"; what we create in our heads is "text."

Much confusion in current theory would be eliminated by a semantic distinction between surface text or the "text potential" and the "text." Teachers tell students to "take out their texts" when they mean their textbooks; researchers often endow their text (what we prefer to call a 'text potential') with the kind of life which only a reader can find and create. Perhaps it is utopian to hope to change such entrenched confusions in critical terminology, but at least the present discussion will observe the following distinctions:

"Text potential" designates a set or series of signs interpretable as iconic forms of psychological and sociological action. We use this rather roundabout phrasing to make it clear that the text potential is not simply the inked marks on the page but rather the sign complex formed by print and other communication systems in relationship to situational context; that is, a print setting as it is encountered by a reader, or mental setting. In a reading situation "the text potential" may be thought of as the complex of available signs in a given print setting which demonstrate capacity to serve as iconic forms of psychological and sociological action for language users.

"Text," for our purposes, presupposes a reader or a writer actively involved with a text potential and refers, in reading, to what a reader makes of his or her encounters with a particular text potential at a given point in time. Text for a writer is an in-head phenomenon, some portion of which may never be signed in the surface text which is created. Writers, in creating a surface text, need to decide not only what elements of their text will be communicated, but how this portion of their text will be allocated and orchestrated (typically for most writers across and between art, context, implied gestures and language) in an effort to sign their intended meanings. These decisions involve negotiation, defined as pragmatic and semantic shifts and moves on the part of a language user in an effort to find, create and sign text (Harste, Burke, Woodward, 1981). A parallel process exists in reading, where negotiation is defined as pragmatic and semantic shifts and moves on the part of a reader in an effort to find and create text (Harste, Burke, Woodward, 1981).

From the time of birth to the present moment the world as we've experienced it is one continuous undifferentiated experience (Smith, 1982). Given the limits of short-term memory, "texts" are those things which the mind creates in an effort to chunk the world of experience into meaningful and manageable units.

While "text" is a mental entity for language users, in creation it represents a series of psychological and sociological strategies. "Text" in reality must be thought of as an event in time. Rosenblatt (1978) captures this idea eloquently by stating that it happens during a coming together, "a compenetration," of a reader and what we have called a text potential. The texts we create have certain characteristics. They represent pieces of the world which for us have unity, contextual appropriateness and represent our attempts to orchestrate and honor available signs.

Though we create texts from text potential, we assume intertextuality, i.e., that past texts we have created will be helpful in understanding the current text we are creating (Beaugrande, 1980). From a semiotic perspective, texts sign other texts and hence act as both past and potential signs in their own right. This search for and discovery of suspected and unsuspected harmonies between past texts and current texts constitutes learning. Making sense of current texts in light of past texts constitutes comprehension.

The meaning of a text potential--textual meaning--is not fixed, but rather changes as a result of new experience. What experience does is provide demonstrations of how the linguistic, behavioral, contextual, and affective elements of an experience are orchestrated and signed. With increased experience comes increased knowledge of, familiarity with, and use of these signs. Because reading, for example, is its own experience (Crafton, 1981), in rereading we have opportunity to search for new unity and new forms of orchestration. This is one of the reasons young children can enjoy a book over and over again, never tiring of it long after we have convinced ourselves it has no new text potentials for us. It is, of course, why we can enjoy a good book a second and third time. Further, reading provides writers with multiple demonstrations of the writer's craft; so many in fact that no matter what our ability a well-written document can serve us, as writers, as a veritable data source.

The relationship between thought and language insures that the texts we create always have a linguistic dimension. All that is known, however, is not linguistic in nature.

Some of what we know lies in and across alternate communication systems. In *Thought and Language*, Vygotsky (1962) emphasized "the weakness of traditional psychology" in separating the study of "intellect and affect." When this is done the thought process is "segregated from the fullness of life, from the personal needs and interests, the inclinations and impulses, of the thinker." He postulated "the existence of a dynamic system of meaning, in which the affective and the intellect unite" (p. 8).

James (1939) states that for him thought includes "every form of consciousness indiscriminately"--sensations, percepts, images, concepts, states or qualities of states, feelings of relations, feelings of tendencies. When viewed as an in-head potential, text is multidimensional.

In *Mind and Society* Vygotsky (1978) argues that when thought and language come together at about age 2, thought becomes linguistic and language becomes rational. The model we propose would argue that thought is never totally linguistic. In fact this is what's wrong with much current work in discourse analysis and comprehension. For us the notion of text includes linguistic and non-linguistic thought. I. A. Richards' (1929) insightful analyses of "the plain sense" of a poem nicely captures how meaning often resides beyond the linguistic system itself:

> In fact, a feeling that is quite pertinent seems often to precede any clear grasping of the sense. And most readers will admit that, *as a rule*, the full sense, analysed and clearly articulated, never comes to their consciousness: yet they may get the feeling perfectly. (p. 216)

Nor would we agree with those psychologists who would suggest that non-linguistic thought is "muddle-headed" or non-logical thought (Spiro, 1982). Knowledge in music, art, dance, etc., is organized, though quite possibly on some other basis than rationalism. We refer to the organizational structures underlying these alternate forms of knowing as paralogical thought to put them on an equal plane with language.

Style and aesthetics is operationally defined as the orchestration of signs across available communication systems such that more of the text potential or potential lived through experiences (psychological and sociological actions) have been signed. Rosenblatt (1978) states it this way:

> The actual lived-through reading process is, of course, not a word-by-word summation of meaning, but rather a process of tentative organizations of meaning, the creation of a framework into which the reader incorporates ensuing words and phrases ... In aesthetic reading, the qualitative aspects, the voice, the tone that has been established, often have an important effect, not only on the emotive impact of the words that follow but on their meaning. (pp. 24 & 25)

One can buy into the notion of macrostructural textual organization (Kintsch & van Dijk, 1978) without buying into or thinking about macrostructure as being only linguistic in form. Iser (1978) states:

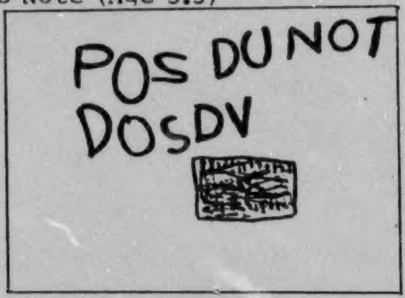
> The text itself simply offers "schematized aspects" through which the subject matter of the work can be produced, while the actual production takes place through an act of concretization. ... From this we may conclude that the literary work has two poles, which we might call the artistic and the aesthetic: the artistic pole is the author's text and the aesthetic is the realization accomplished by the reader. In view of this polarity, it is clear that the work itself cannot be identical with the text or with the concretization, but must be situated somewhere between the two. It must inevitably be virtual in character, as it cannot be reduced to the reality of the text or to the subjectivity of the reader, and it is from this virtuality that it derives its dynamism. As a reader passes through the various perspectives offered by the text and relates the different views and patterns to one another he sets the work in motion, and so sets himself in motion, too. (p. 21)

"Texts," as used here, have some rationalistic characteristics in common with the notion of schema, though the term "text" is meant to capture and include both logical and paralogical ways of knowing which result, in reading, from sociological and psychological forms of action on the part of the reader.

Because inked marks on a page in a particular situational context together form one of the sign complexes of a text potential, alterations in the situational context necessarily alter the text potential. Illustration of the transactive relationship between text and context in writing, using young children's examples, began in the previous section of this report. What this section attempts to do is clarify other transactive relationships involved in text comprehension and production as these relate to literacy and literacy learning.

Not only are children's responses textual in the sense that they display internal and external unity, but further, they are textual in the sense of their being an orchestrated set of signs. Alison's POS DUNOT DOSDV (Please Do Not Disturb), see Figure 35, is a case in point.

Figure 35. Alison's Note (Age 5.5)



POS DU NOT
DOSDV

Embedded and hence signed in the text is context. Not only is Please do not disturb written language form (as opposed to its oral language form, "Please don't disturb me"), but as experienced language users the message and its accompanying form tells us that it is the kind of specialized environmental print one finds on doors in hotels when guests wish to sleep in, in schools when tests are being given, or in other situations where the person in authority wishes to exert control and does so by softening the superordinate-subordinate relationships involved with a "please."

Alison posted this note on her bedroom door after her older brother and his friend had repeatedly indicated that she was in their way on a rainy Saturday afternoon. In this instance the message and its accompanying form acknowledge Alison's sense of her rights; the "please" acknowledges the fact that while she knows she's in the right, she'd better not push it too far.

In addition to unity (within the text itself and between text and context), it should also be noted that Alison used a black, thick-tipped, magic marker with which to write her note. In so doing the very form of the markings lets one in on her current attitude as well as helps her communicate the fact that she means business.

This, then, is the notion of orchestrated sign and text as involving not only linguistic, but affective, contextual, and indexical demonstrations. Captured in Alison's message is attitude, tone, and language which together constitute a complexly orchestrated set of signs.

Alison's text is for her brother and his friend a text potential. Depending, of course, on their facility with written language, they may not read all of the available signs; or then again read more signs than what Alison had hoped to communicate, thus interpreting her message as, "She's getting uppity," or "The prissy little thing had better be taken down a notch."

All texts include affective as well as contextual complexes which operate as signs. A language story which illustrates both this notion and the notion of intertextual tying is that collected by David Whiten, a later member of our research team, and his wife (1981), in their attempts to understand evolving literacy.

Chris, age 4, liked to have stories read to him. His favorite was _The Three Little Pigs_ which he insisted be read first at each session. One morning Phyllis, as usual, sat down to read stories. She began, of course, with _The Three Little Pigs_.

Chris' next selection was Hans Christian Anderson's _Steadfast Tin Soldier_. In this book the steadfast tin soldier meets one disaster after another. Finally on the last page he is shown in a rapidly deteriorating paper boat slowly sinking into the water. Phyllis paused as she finished the book. Chris reflected a moment and then with some disgust in his voice commented, "He should of built that boat out of bricks!!"

It is important to note that the past text--The Three Little Pigs--became the frame from and through which Chris attempted to make sense of this new text. As such this language story nicely illustrates the notion of intertextual tying and the assumption that the past texts we created will be useful in understanding the current text we are creating. This binding of texts--where the current text signs past texts and where as a result a new synthesized text is created--is what learning is all about. From his experience with The Three Little Pigs, Chris has abstracted out a set of rules. His abstraction and application of these rules--good wins over evil; diligence pays off; brick houses are stronger than wood and straw houses; smart people build with bricks--becomes the basis for evaluating and summarizing this experience.

Not only does this language story illustrate the notion of intertextual tying, but it also illustrates affective dimensions of text learning and use. Chris's "He should of built that boat out of bricks!!" is said with disgust and disappointment. While on one level we might productively study the linguistic propositions which make up his response, this is only a part of his text; the other component is affectively signed via intonation, tone, and accent. As in writing, the affective and linguistic dimensions of his reading response together constitute an orchestrated and complex signing of what this experience meant to him.

At age 3 Alison encountered the book Prince Bertram, The Bad (Lobel, 1963) in which Bertram lives in a "royal" nursery, breaks "royal" toys, pulls up "royal" flowers when he visits the "royal garden" and so forth. Days later, when she encountered the book on her own, her story line included, as we might suspect, "royal" everythings. Months later, on the grounds of the Association of American Historians which is housed in an old historical mansion, she asked, "Is this 'the royal garden'?"

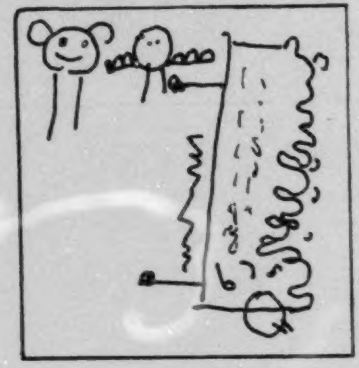
The importance of this instance of literacy lies in the fact that it clearly demonstrates the notion of text, as well as learning being the search for unsuspected textual harmonies across time. Alison assumed that the past texts she created would be useful in her current attempts to make sense of the world. The texts she created from a written language encounter served not only as frameworks for subsequent encounters with written language, but with the world. The lines which we as adults draw between written language texts and whole world texts are arbitrary and both are in fact a play in the text worlds we create from language. Iser (1978) refers to these interplays as "tensions," and sees them as the basic force in literacy.

Whether certain parent-child interactions encourage this sort of intertextual tying, as Shirley Brice Heath's research indicates (1980), merits further study. From a socio-psycholinguistic perspective we are sure such a relationship exists. Importantly, from the perspective of text macrostructure, Alison's question, "Is this 'the royal garden'?" was triggered as much by the "aura" of the setting as it was by the referential objects; a castle-like house and its surrounding gardens.

The texts which children create during uninterrupted story writing bubble with affect and gesture and dance; only a "poor relations portion" of which actually gets recorded. Not only do children often literally hop, but their pens do too. Tasha (age 4) and her rabbit went hop, hop, hop with joy and spirit. The ink marks on the paper recording this event were poor relations--a series of dashes. In rereading, rather than being caught up in the story as she was when she was writing, she said, "And these are the bunny's tracks," thus signaling to us her change in psychological relationship to the text. She made this statement, then paused, and shrugged her shoulders thus signing her own disappointment between her original "text" and this "text potential." While the realization of discontinuity did not drive her to revision, partly because we had collected the pens, it is, we believe, this search for unity and realization of discontinuity as we switch psychological stances that governs text creation and constitutes a self-correcting push towards literacy.

Donald's story is a semiotic event (see Figure 36). He began by drawing a man and a bat. As he pointed back and forth between these forms he later read, "A bat biting the man." His story also contained a dinosaur which chased a mouse which in turn made appropriate noises as it died. The wavy line you see in his product was initially the trail the mouse took, only later to become the back of his dinosaur as his story evolved. The extra little 'n' markings on the dinosaur's back were "other mice coming out," all of which followed the same bloody trail and met the same bloody fate as did their predecessors. The text that he read was a poor second cousin to the text that he dramatized and told: "The bat is biting the man. And the dinosaur swallowed the rats."

Figure 36. Uninterrupted Story Telling--Donald (Age 5)



The transcription of this event records important distinctions between "text" and "text potential." Further, it demonstrates the concept of negotiation as both a textual saga and strategy.

One of the decisions Donald, like all of us as writers, faces is what portion of text to allocate to context, to art, to print, to gesture, or even to assumption. These semantic negotiations, as Donald shows us, are not without drama. The results of these decisions are often a disappointment not only to our readers, but to ourselves.

Yet, Donald's script shows us the potential in negotiation as much as it does the saga. In moving to art Donald produces a set of signs which serve textual memorability and retrievability functions characteristic of more conventional scripts. These are not direct representations of referential objects but abbreviated, abstracted, and arbitrary forms representing mental symbolism.

From Donald's whole world experiences with mice he has abstracted out an image of how they move. This is not the meaning of the event to Donald but a code placeholding its meaning. This abstraction, he discovers in this setting, can be recorded via particular markings on paper. That they remind us more of art than writing is a distinction which leads us away from appreciating the written language-like character and the processes involved as universal ones in literacy.

Donald is not imitating the movement of a mouse, but rather offering proof that from his past encounters he has abstracted out of this experience a code by which he can recreate it. If imitation were all that were involved there would be no evidence of inference, analogy, or imagination. This code serves a semiotic function, just as Donald's recording of this code now signifies the dinosaur-eating-mouse event in his story. Carey (1982), in discussing the applicability of a semiotic perspective for the study of reading, says:

> Written texts owe their existence to the codes that we invent to process the world and create it. They remind the reader of the codes and show him how they work. ... Reading, then, like all other communicative activities, is the pursuit of signs. The reader engages in the prospect of grouping, comprehending, and capturing evasive signifying structures. (p. 13)

"Writing," to borrow Carey's language, "like all other communicative activities, is the pursuit of signs. The writer engages in the prospect of grouping, creating, and capturing evasive signifying structures."

These are not new observations, though their importance in literacy learning may be. Piaget (as reported by Ginsburg & Opper, (1979) reports that his daughter Lucienne, upon observing him ride a bicycle performed the same motions herself, swaying to and fro at about the speed of the bicycle.

Lucienne's and Donald's behaviors are forms of mental symbolism. The child's swaying back and forth later when the bicycle is not present signifies the bicycle event, just as Donald's mouse track signifies the dramatic events of mouse-escape and fate.

While these are at one level abstract symbols, in text production and creation they are indexical traces and iconic images of psychological and sociological territory. Both Donald and Lucienne teach us that visual perception is as much an activity as is the placeholding of an event with paper and pen.

Theoretically we can say that the semiotic function involves signifiers--mental events, words, or things--which stand for something else. Signifiers signify or represent something to the individual. In the past semioticians have labeled signifiers as being either a symbol, an index, or an icon. What Donald and Lucienne demonstrate is that any signifier is all three: an index or trace of the event, an iconic image projecting the psychological and sociological territory, a symbol, or abbreviated abstraction of let this be that.

Signifiers may be personal or conventional. They may only signify things to us personally or they may signify things more generally to other members of our immediate and more distant cultures. This distinction is the difference between semiosis (personal) and a semiotic event (shared). For Donald the mouse-trail signifies the event, for another child it may be a picture of a dinosaur actually eating the mouse (which despite some forms of detail is still an abstraction of the event itself), for a third child it may be the markings DIAUSOR (Matt, Age 6). What is significant here is not so much the form it takes as the process which is involved. All represent the semiotic function or instances of real literacy. They differ by virtue of their being variations on a common theme.

The semiotic function of literacy is not an all or none thing. Each of us has various elements of our world which we control at personal levels and other elements at conventional levels. Donald can sign his name conventionally, though his signing of story lies somewhere between personal and social convention. (Note, for example, that though his story is placeheld in pictures, it has a story structure form.) Symbols, Donald teaches us, take new form as we move them from mental images to concrete forms. This process can be as generative for us as it is for the child. As researchers, for example, we have found the strategies which children use in writing--negotiation, pretending--to be keep-going strategies for us too. We did not consciously know that before.

The complexity of semiotic terminology should not obscure the fact that the ability to form mental and physical representations is an achievement of great magnitude. Things no longer need to be present to act on them. The ability to represent liberates the child from the immediate present (Vygotsky, 1978). He can imagine things that are both spatially and temporally separate from himself. He can create worlds where dinosaurs eat mice and placehold them by making marks on paper which capture the essence of his text. The use of such a system permits the child to transcend the constraints of space, distance, and time. Donald's scribbles, in sort, offer him self-discovery of all that written language offers us.

In attempting to mean, children often freely move between writing and art; and just as often in this process border skirmishes result (Harste, Burke, Woodward, 1981). Erica (see Figure 37), in writing a story about an animal, began with the letter B which she then turned into a fish and later into a "birdfish." Megan (see Figure 38), in representing a castle, placeheld her notion with a jagged line which not only captures the characteristic jagged features of a castle wall, but which takes on a written language-like form. Megan's decision here is not unlike the set of decisions which undergird several Oriental languages.

Mike (see Figure 39) on one occasion wrote his name quite conventionally, but in this instance preserved his ideas via a combination of pictures and print. In reading what he wrote, Mike recalled the ideas placeheld by his border skirmish scribbles, but said as he came to each letter, "I don't remember what that says." Mike's scripting decisions here look a bit like those underlying hieroglyphs and the early writings of Native Americans. It is significnt that this personal textual transcriptions meant more than his use of our conventional ones, as it signs to us the order of things in literacy.

Figure 37. Uninterrupted Story Writing Excerpts--Erica (Age 4)

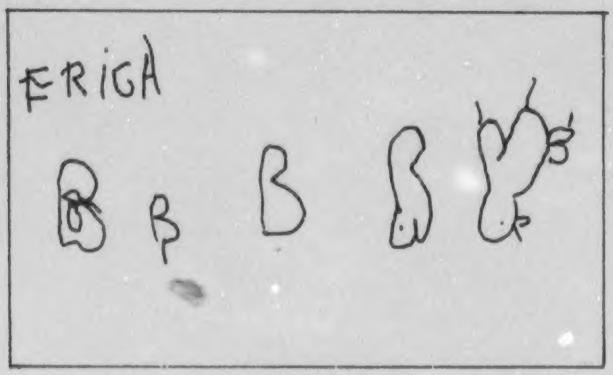


Figure 34. Uninterrupted Story Writing Excerpts--Megan (Age 4)

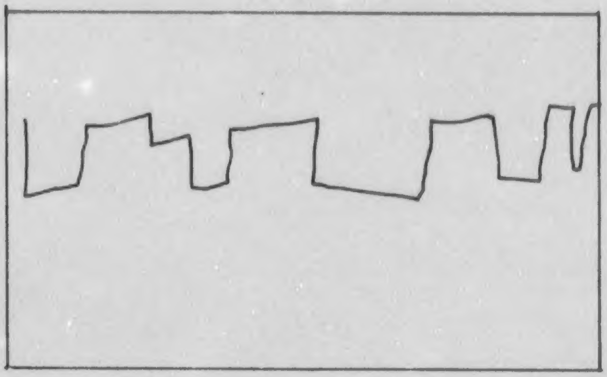
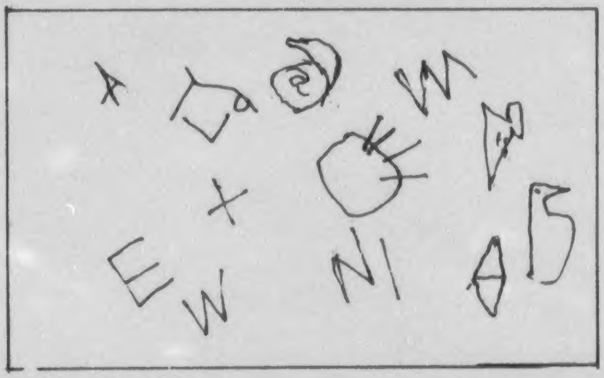
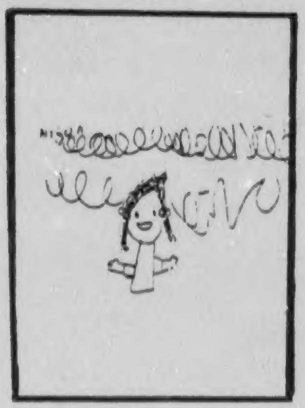


Figure 39. Uninterrupted Story Writing Excerpt--Mike (Age 4)



Alison (see Figure 40) wrote her story "in cursive," or so she said. She also said she could write more if she added a picture, which she did before adding the other line of her story.

Figure 40. Uninterrupted Story Writing--Alison (Age 5)

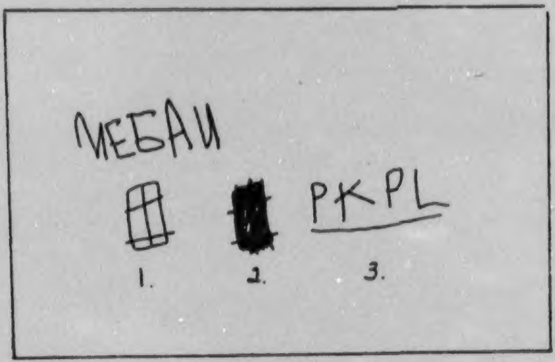


The interesting thing to note in each of the instances reported in Figures 37, 38, 39, and 40 is that the children not only seem to be inventing written language for themselves, but seem to be in the process of personally resolving all of the problems which the inventors of written language across various cultures have had to resolve. As a result of border skirmishes between writing and art, each of these children learned how they could write so that they could retrieve their texts over time.

Alison's story, for example, could be reconstructed by her almost word for word even weeks later. Her story read: "Once upon a time there was a girl named Alison. She was walking down the road and saw a little boy named Jack, I mean Jason. The little boy named Jason said 'Hello' to Alison. Alison said 'Hello' to Jason and they became friends so they played until it was suppertime. The end."

From such border skirmishes between art and writing it may be but one metaphorically short step before other skirmishes arise as between written language and sound. Megan (see Figure 41) initially drew a picture of a present to placehold her text. In reading, she said, "This says package." Then she reflected, "No, it doesn't!" crossed it out, and wrote, "PKPL."

Figure 41. Uninterrupted Writing--Megan (Age 4)



What these examples demonstrate is that in scribbles is the invention of the written sign, not as an heirloom which is passed on from generation to generation, but as a process replete with the advantages which we, too, have discovered for written language over oral language. The fact that Donald's, Erica's, Mike's, Alison's, and Megan's markings are mere scribbles in relationship to their original texts seems to us to be no more than the relationship between this "text" as we envisioned it, and the "text potential" which you are currently reading.

2.8 DEMONSTRATIONS

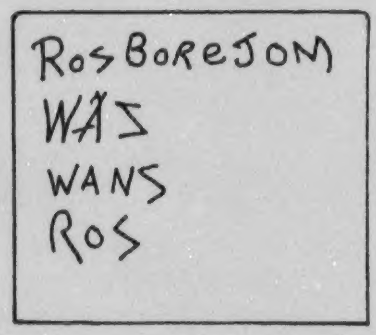
2.8.1 DEMONSTRATIONS: THE YOUNG CHILD AS INFORMANT

By 'demonstration' we mean a display of how something is done. As applied to written language and written language learning, any literacy event provides a variety of demonstrations which are available to language learners through the actions of the participants and the artifacts of the process. The learning of these demonstrations involves the active mediation of the language user.

- *Alison, age 6, was writing her timetable for watching her favorite television programs. She was copying from the T.V. Guide in the newspaper as she wrote: 6:30--Ch. 6--Mork & Mindy--7:00--Ch. 6--Wonder Woman. To make the spaces she used black squares. When her father looked at her timetable he said, "Alison, adults use blank spaces, not black squares to space." Alison replied, "Daddy, I'm not an adult."*

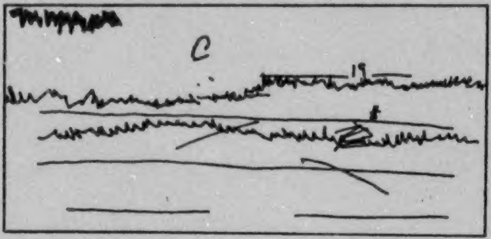
  Through her encounters with the written language of newspapers, Alison's response demonstrates that she has attended to how it was that members of her interpretive community separate their writing in units. Having inferred these rules she develops her own rule system, but has a different surface structure. Alison's behavior reflects the active role which the language learner plays in language learning. In light of what is currently known, Alison develops a personal convention which, while different from ours, serves her at this time. She is not simply modeling or imitating what it is she has observed; rather, having observed a particular phenomenon she has inferred its function and in light of her current interests, developed her own system.

- *Sarah, age 5, and Alison, age 6, both developed a new way to directly sign the fact that s's sometimes carry a z-sound by making their s's under certain conditions in the s-shape but using the 45 degree straight line angles that we typically use in making the 'z'. What is interesting is that both children made s's in other circumstances quite conventionally. All*



RoS BoReJoN
WAS
WANS
RoS

occurrences of this new letter in their texts was where the s carried a z-sound such as in raspberry, rose, and was. While it is clear that this decision was intuitive in that the new letter also occurred for the z-sound in once, it is interesting to note that these demonstrations and options are readily available in our written language system and represent an easy change which the inventors of our system might well have considered.



- *Jerry, age 3, watched as his father diligently wrote out checks one evening after dinner. Since he was determined to help, his father gave him a pencil and paper with the outline of a check on it. In the upper left-hand corner Jerry made a series of very dark, dense marks where he had obviously noted the name and address was printed on checks. Using a finer stroke he filled out the TO WHOM line, dollar amount, and signature block, with a much finer wavy linear line and handed his check back to his father saying, "All done."*

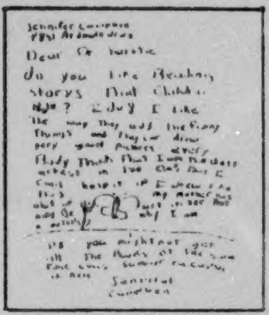
From his presence in this literacy event Jerry learned much. Not only did his observations of the demonstrations involved in this literacy event inform him that writing was important and something he wanted to do, but also where to write and how to organize that writing. With these understandings he creates a successful text given this context.

There is no inherent sequence to the order in which the demonstrations involved in literacy are learned; rather, which demonstrations are learned are a function of which demonstrations are highlighted by a literacy event as they transact with the interests, purposes, and personal history of the language user.

- *Jennifer, age 8, had given us a copy of her book The Talking Egg Goes Camping. We wrote her an official Thank You letter and suggested via a post script that we would be happy to have copies of the other books in her series, The Talking Egg Eats a Peanut Butter Sandwich, The Talking Egg Tries a Cigarette, and The Talking Egg Takes Up Jogging.*

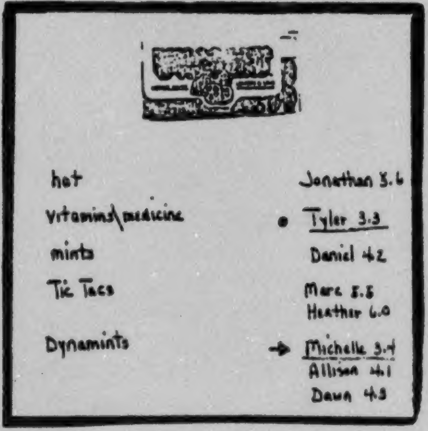
Jennifer had completed this whole series of books as part of her work in Vera Milz' classroom, a teacher attempting to support and *encourage young children's reading and writing through functional classroom activities.*

In response to our 'business' letter, Jennifer wrote us a 'business' letter back. Her letter began with a business address, JENNIFER CAMPBELL; backwards 4 851 Ardmore Drive, followed by a salutation. Her letter read: DO YOU LIKE READING STORYS THAT CHILDREN RIGHT? I DO! I LIKE THE WAY THEY ADD THE FUNNY THINGS AND THEY CAN DRAW VERY GOOD PICHERS. EVERYBODY THINK THAT I AM THE BEST ARTEST IN THE CLAS. BUT I CAN'T HELP IT IF I DRAW LIKE THIS (picture of a butterfly). MY MOTHER HAS A LOT OF ART IN HER. THAT MAY BE WHY I AM A ARTEST (picture of flower). To close her letter Jennifer added a post script as we had done in our letter: P.S. YOU MIGHT NOT GET ALL THE BOOKS AT THE SAME TIME COUS SUMMER VACASHON IS HERE. JENNIFER CAMPBELL.

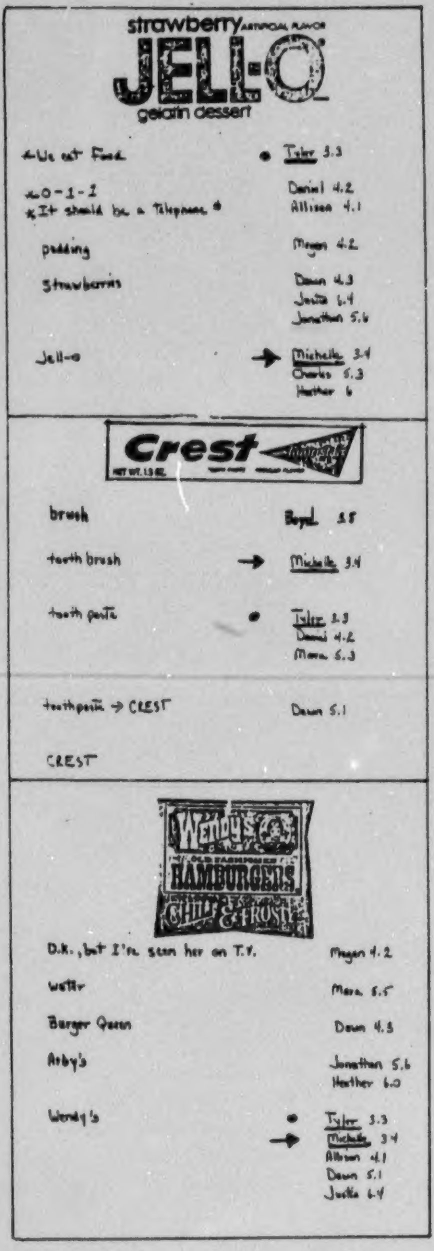


Jennifer obviously is a very self-confident young writer who knows a good deal about letter writing. What she is able to learn about business letter writing from this single encounter is truly impressive. From her experience as a reader and receiver of a business letter, Jennifer noted several demonstrations and inferred their function--include a business address; add post scripts. With these data in tow, she actively goes about incorporating these ideas into what already is a well developed letter writing schema.

- *Michelle and Tyler, both age 3, were individually shown several pieces of environmental print in an effort to further study the relationship between response type, age, and experience. When shown a package of Dynamints and asked, "What do you think this says?" Michelle responded, "Dynamints" while Tyler initially responded "medicine" but corrected his response to "vitamins." When shown a box of Jell-O, Michelle responded "Jell-O"; Tyler responded, "We eat food."*



Examining Michelle and Tyler's responses over these first two items, Michelle would seem to have an experimental edge. When shown a carton of Crest toothpaste, however, Tyler responded "Toothpaste," while Michelle responded "Tooth Brush." In this instance Tyler seems to have the experimental edge.



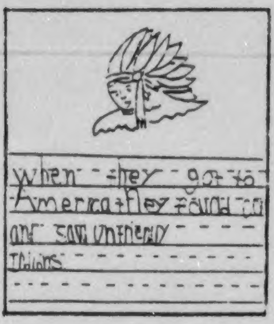
Since such thinking is based on the assumption that responses move to convention over time and experience, we introduced a product--Wendy's--which was new to our area having only very recently received television coverage. Our question was what happens when experimental opportunities are restricted.

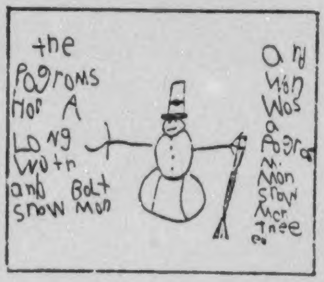
Interestingly, given our elaborate preparations, when shown the cup from Wendy's and asked what it said, both Michel and Tyler responded, "Wendy's."

What is interesting is that children much older seemed to be at an experimental disadvantage. Megan, age 4, responded, "I don't know, but I've seen it on T.V." Mara, age 5, responded, "Water." Dawn, age 4, responded, "Burger Queen." Jonathan, age 5, and Heather, age 6, responded, "Arby's."

What these data suggest, then, is that there is no simple and direct relationship between age and response type, nor an increase in experience and the production of a specified conventional response. Despite common sense notions, environmental print is complex, with most items containing multiple syntactic and semantic units scattered over the item's surface. Cues must be selectively perceived from the varying systems and a weighting of these relative influences made as they transact with the total of incoming cues with the reader's experimental knowledge. While "Crest" and "Toothpaste" won the popularity contest in terms of what to read on a Crest toothpaste carton, two discerning readers focused on Fluoristan, saying "Flouride." While "Milk" and "Kroger's" captured most children's attention, there was a small discerning group who attended to "Homogenized." What Michelle, Tyler, and these other young language users display is the flexibility and confidence to make individual decisions which can only come with the accumulating effect of personally significant *experimental confrontations. These confrontations, rather than closing options, open them. While initially knowing that Wendy's is the name of the new fast food place is enough, what experience does is permit us to move our attention to new demonstrations which were always available. So Crest moves to "Flouride," Milk to "Homogenized," and Wendy's, for us, to "Frosty Shakes."*

- *Alison, age 6, who we know was a written language user at 3 years of age, was asked by her first grade teacher to make a Thanksgiving Book by copying the text onto school paper from the blackboard. Presumably this assignment used writing to support reading by using copying to get children to attend to print, discriminate between various letters, and in the process, learn their various forms. Since Alison and the other children we studied rarely demonstrated any of these inabilities, however, the worthiness of this activity seems questionable. The text Alison was asked to copy was on the pilgrims and read, "When they got to America they found corn and saw unfriendly Indians." Without commenting on the quality of this message as social studies content, it is interesting to note the difficulties she had with this assignment. Because of the lined school paper Alison tried to be extra careful. Her when would have warmed the heart of a Palmer handwriting expert. When she got to the second word, they, she carefully made the 't' to fit the height of the half line rather than the height of the full line; the 'h' the height of the entire line; and the 'e' and 'y', tail and all, to fit the half line. Since both her 't' and 'y' were written within the half line space, her printing looked funny and unlike anything she had previously written without the benefit of lined paper.*




the Pagroms Hor A Long Wutn and Bolt snow Mon
and Wan Wos a Pagram Mon snow Mcr tnee

> *Concentrating on letter form she gets worse rather than better, making decisions unlike others she had ever made. The net result was a carefully done maze of crowded letters and words.*
>
> *Interestingly, on the same day we invited Alison to write a Thanksgiving story at home. She thought a while and then drew a pilgrim snowman and wrote the following text on unlined paper in two columns running the length of the picture: "The pilgrims had a long winter and built snowmen and one was a pilgrim snowman . . . The end . . ." spelling her message THE POGROMS HOD A LONG WOTH AND BOLT SNOW MON AND WON WAS A POGRA-M MAN SNOW MON THEE END.*
>
> *In contrast, the quality of these two writing experiences is striking. In the first instance what is being demonstrated is the importance of good penmanship. What you write isn't important; how you write it is. Under these conditions Alison attends to these demonstrations and produces a piece of writing which is nearly illegible. By contrast, in the second setting what was demonstrated was faith in the language learner. The assumption is that Alison has things to write about. She rises to the challenge and assumes the pilgrims would like doing what she likes doing, namely, building snowmen. Since there was nothing to sign the importance of penmanship, she focuses on her story and the testing of her latest language discoveries and hypotheses--when in doubt about a vowel use O; use a hyphen to split words. From the perspective of literacy learning, the qualitative differences between these experiences in terms of the demonstrations available and attended to are startling. Using the child as informant salient demonstrations in a literacy setting can be identified. If the child is attending to demonstations which, given our present level of understanding of literacy, we theoretically believe to be dysfunctional, then conducive environments can be established which highlight more functional demonstrations. For purposes of instruction, understanding this relationship between literacy learning and available literacy demonstrations is extremely important, and seems particularly meritorious of the profession's immediate attention.*

Since attending to and making sense of available demonstrations is in the self-interest of the language learner, language users of all ages are extremely sensitive to any demonstrations which they perceive as potentially functioning as signifying structures in a literacy event. The search for and orchestration of these signifying structures is governed psychologically by a search for text and the creation of a unified meaning. In the search, identification, and interpretation of signifying structures for the purpose of creating text and a unified meaning, the language users make active use of the alternate communication systems and the alternate expressions of language. Psycholinguistically and sociolinguistically what these alternate communication systems and expressions of language offer users are alternate stances whereby they can triangulate their knowing. It is in this continual process of attending to and sorting out available demonstrations in a literacy event as these relate to learning written language, learning about written language, and learning through written language, that the individual and societal potentials of literacy in service of and expansion of the human potential occurs. The section which follows examines these notions via protocol materials and a review of pertinent literature for purposes of reconceptualizing literacy and literacy learning.

2.8.2 DEMONSTRATIONS: INTERDISCIPLINARY VIEWS

Smith (1982) argues that any language encounter provides a multitude of demonstrations:

> The first essential component of learning is the opportunity to see how something is done. I shall call such opportunities *demonstrations*, which in effect show a potential learner *"This is how something is done."* The world continually provides demonstrations through people and through their products, by acts and by artifacts. (p. 108)

In further building and explaining this concept he suggests that a variety of process information is simultaneously demonstrated in any language event. In reading a book with a parent, for example, not only do young children have demonstrated how enjoyable a book is, but that books are meaningful, and that book reading is important. Demonstrated also is what a story is, how authors put stories together, how pictures and print work together to form a surface text, and how you package the whole thing. Additionally children have demonstrated how pages in a book work, how to turn pages as you read, the order in which you read, and the relationship between page turning and movement through the story. Equally important are demonstrations relative to how one reads, how one corrects in reading, and how the speaking voice changes during reading. From still another perspective children have demonstrated how langauge works, what it looks like, how it is chunked and formatted, as well as how it is distributed in this literacy setting. While not all of these demonstrations and others are attended to in any single instance of literacy, Smith argues they are available.

It is important to understand that the information available is not content information per se, but process or strategic information. Smith's argument is important as it begins to explain why it is that we can repeatedly involve ourselves in reoccurring literacy events and still find them both valuable and enjoyable. Because literacy is an event rather than an act, a perpetual firstness (Pierce, 1931-1958) is assured both for the young as well as the more seasoned learner. With repeated encounters we can attend to new demonstrations using choice as a self-motivating and context-capitalizing strategy.

When we say language use and learning involves orchestration, theoretically what we are saying is that the behavioral, affective, contextual, and linguistic demonstrations constituting an instance of literacy, together and separately form a set of sign complexes which have meaning potentials. From this perspective a demonstration constitutes psychclogical and sociological actions associated with one set of these sign complexes. More successful and less successful instances of literacy revolve around the consistency and inconsistency of demonstrations and the messages which they individually and collectively sign as they function in their role as a text or text potential. The evolution of literacy involves awareness, familiarity, knowledge and use of such demonstrations to sign and intepret meaning. With more and more encounters, come more and more opportunities to become aware of, familiar with, and knowledgeable about the use of available and potential demonstrations. Literacy is never a glorified state one enters, but involves orchestration and reorchestration of the sign complexes of literacy as contexts change and evolve.

Because any instance of literacy contains multiple demonstrations, unity across demonstrations is an expectation which language users bring to the process. Unity, and the search for unity between and across sign complexes, becomes a driving force in text production and text comprehension; unity, and the search for unity across past and current texts, becomes the propelling force in literacy learning.

These observations are particularly powerful in explaining and in making sense of the data which we and others have collected during observation of the young child as writer. This section will further expand the notions of demonstration, orchestration, and unity as constructs for understanding literacy and the processes involved in literacy learning.

Seating a child in front of paper and pen and announcing that "today we're going to write stories" proved to be a rather stark, but yet interesting setting for exploring key processes involved in literacy. Many younger children negotiated the task so that rather than deal with story writing, they saw and took this as an opportunity to practice writing their letters and numbers. No other adult had ever approached them with such a request; surely, we must want what other adults wanted. Their search for unity across this setting and others led to negotiation of the task, but identification of a "text" which made orchestrated sense in light of current and past signs.

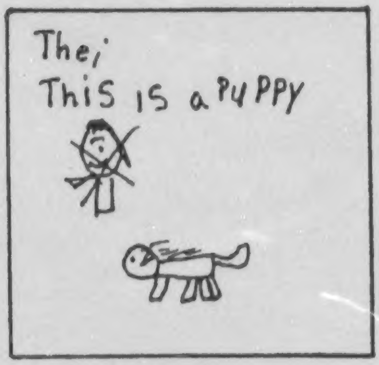
Those children that did engage were, of course, immediately confronted with two problems: what story should they produce and how should they begin? These problems were not independent of each other. Since the immediate environment offered little support in that we were busy writing our own stories, many children relied on past story settings in which they and we had been involved. Some accessed past prototypical stories; others accessed not only past stories, but an immediate past context which they saw as similar to the one in which they currently found themselves. Because of the nature of our research project this immediate past story context for many of our subjects involved their reading or pretending to read--just 3 days prior--a book entitled Ten Little Bears. Under these conditions, not surprisingly, fully one-third of our subjects wrote their stories also on the topic of "bears." Jake, age 6, produced The Three Little Pigs, an even more refined rendition of the story he elected to tell during our language experience story dictation task.

Because we were writing a story our very presence in the research setting provided a variety of available demonstrations--where to begin, how to begin, and if they read over our shoulders, what they might even write about. The stories we had decided to write while the children were writing their stories were third-person narratives. We began in each instance by drawing a stick figure and then writing a brief story given what we had learned about the child: "This is Tasha ... Tasha likes to play in the sandbox with her friends, etc."

An examination of the stories which children produced under this condition vividly illustrates not only that these demonstrations were available, but how influential such demonstrations are in literacy learning. Well over one-half of the children in our study included a picture in their story, many beginning with a picture as we had done. Natasha, age 6 (see Figure 42), even decided to cross out her first character and made a puppy which then became the basis of her story. That imitation or modeling is not the key phenomenon, but rather a more general understanding of what strategies might be employed in this setting, is evidenced by the fact that she assures us, "I'm going to make something really different than you." Obviously from past encounters, one of the things Natasha had learned was that imitation of content was inappropriate; reapplication of process, however, was acceptable.

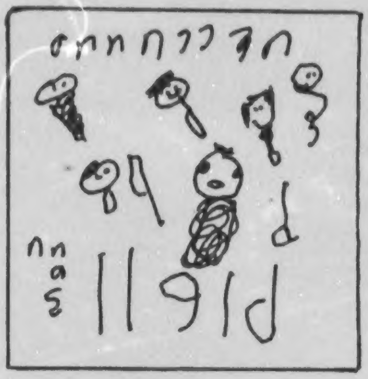
Modeling, for us, involves imitation of content or aping of behaviors without understanding the underlying relationships or rules. Involved in the notion of demonstration is learning and reapplication of abstracted strategic processing operations. Despite the fact, for example, that we drew, children still had to decide for themselves if they would draw. Given this demonstration as available, one half the children elected to ignore it as a strategic sign on how they might proceed. Choice is an integral part of a theory of literacy which perceives the language user as active.

Figure 42. Uninterrupted Story Writing--Natasha (Age 6)



Kibi, age 4 (see Figure 43), orchestrates a variety of strategic demonstrations which were available in this and past settings by electing a topic "bears" (a demonstration available in a past context) and by including in her story "illustrations" of her characters (a demonstration available in this context). Kibi nicely demonstrates not only the long arm of unity, but the significance of this search in terms of literacy.

Figure 43. Uninterrupted Story Writing--Kibi (Age 4)



An observation which Donald Graves (1980) has made relates to both the notion of demonstration and Kibi's performance. Graves' observation is an important one; namely that successful writers "live off the land," meaning capitalize on the natural support systems available in their immediate context of situation.

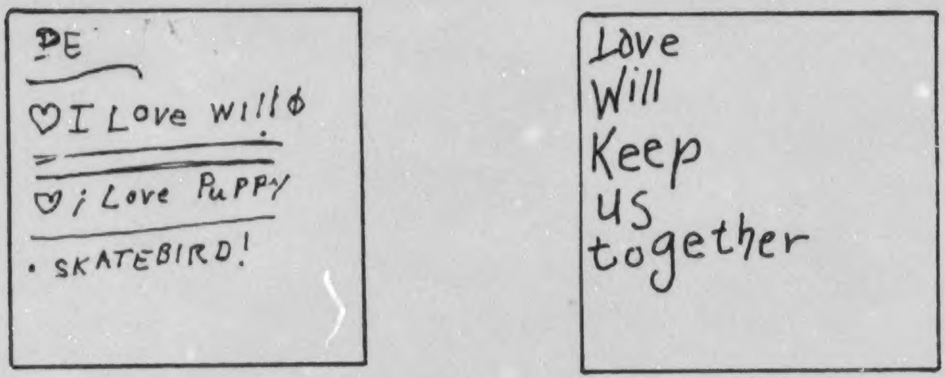
In one of the schools, the room in which we did our videotaping contained several animal posters reflecting the tempo of the times. The posters had such pithy sayings as, "Love Will Keep Us Together," "Puppy Love," and "Skatebird." Since we felt these added to the decor of the setting rather than detracted from it, we decided to leave them up during data collection.

Interestingly several children saw these as available demonstrations and used them in their texts during uninterrupted writing sessions. Natasha's decision to write a story about a puppy (see Figure 42) no doubt was motivated by the fact that the posters available demonstrated to her the spelling of puppy and thus reduced the risk involved.

Importantly first grade children coming from classrooms which had stressed spelling and letter formation seemed especially prone to solving their current writing problem using these posters as their major resources (see Figure 44). This is especially interesting in that 5 and 6 year old children demonstrated in other tasks that they knew more about writing and reading generally than did younger children who obviously had less experience but who also felt less at risk. Their vulnerability was learned in classroom reading and writing programs which imposed constraints and demonstrated to them that what they already knew wasn't good enough.

This does not mean that "living off the land" was an inappropriate strategy, as it did help these children arrive at a text which they felt they could successfully handle given the constraints they perceived as operating. The strategy was in this sense very useful. It is important to understand, however, that the quality of a strategy is dependent upon the conditions of its use. In this regard Donald Graves' research is an important contribution as he and his research team demonstrate that under more natural conditions, instructional strategies--such as peer interviews prior to a writing experience--can be organized to facilitate literacy growth using as one's ideational source the natural support strategies which children use.

Figure 44. Uninterrupted Story Writing--LaShell, Marc (Age 6)



Marc (Age 6)

PE

♡I Love willø

♡ i Love PuPPy

• SKATEBIRD!

LaShell (Age 6)

Love
Will
Keep
us
together

Writing down the stories children dictate is advocated by proponents of the language experience approach because it provides support to children presumably before they can take ownership of both story composition and production. Upon analysis, story dictation proves to be an extremely complex language setting in that children are expected to coordinate their evolving oral texts with the process of transcription, when control of the setting is really in the hands of another language user--the person taking the dictation. Some children, of course, initially defy all odds and charge full-speed ahead.

Under these conditions one rapidly gets a feeling for what children already know about the process of story dictation, as well as for those less familiar with the setting, what demonstrations are available and how rapidly children learn from them. In this regard, we found as did Sulzby (1981), several informants who initially did not seem to understand the requirement of story production. We also found, however, in studying our videotape protocols, that after as few as one repetition of a dictated story component--done by us to clarify what the child had dictated--children often began to pace their dictation of the story more realistically. While our research setting was not designed to be instructional, available demonstrations became signs which operated like instruction.

Further, although we were only there supposedly to take dictation, our presence led other children to ask hypothetical questions which in turn seemingly led them to clarify for themselves what a story was and how one goes about creating one. Jason's story (age 5) is a classic instance of this phenomenon. He began by naming objects: "Dollar. Spoon. Case." He then posed a question which we must assume was in part at least stimulated by our presence, yet said seemingly to no one in particular: "You know what you do with these?" What follows in his story dictation is more predictable; namely, connected discourse: "You take the spoon and you dip in chili and in cereal too, and you eat it ... " While Jason's story was a monologue, embedded in it are features of dialogue.

Although, during dictation, we attempted only to ask questions for purposes of clarification, these, too, often served the same function that Jason's self-initiated and self-answered questions served him.

Equally interesting is the fact that several children who initially did not appear to understand what was involved in story dictation and transcription began to use metalinguistic terms such as story and word. Their use of these terms seemingly was more a result of our interactions with them during story dictation than it was a function of their understanding of these terms prior to story dictation.

In attempting to make sense of these data we found Halliday's insights extremely helpful. Halliday argues that any instance of language provides language users with an opportunity to learn language, learn about language, and learn through language (Halliday, 1980). Learning language involves learning how to mean in particular contexts. It involves language in use; the semantic and pragmatic functions of language. It was what our young language users were doing as they discovered, in process, for themselves what constituted a story and how to produce one under this setting.

Learning about language involves learning about language as a system. It involves an understanding of how language is used in particular contexts as well as language about language or meta-linguistic knowledge. As we asked for repetitions of previously dictated content we caused these young authors to psychologically step back and reassess what was involved in the task, and how you talk aobut it. Through our sounding of their stories as we wrote, through interacting with them in attempting to communicate, we provided children with meta-linguistic demonstrations which made sense and were rapidly learned.

Learning through language involves using language as a vehicle for cognition and expansion of one's world. It encompasses what Halliday terms "the mathetic function" of language. Jason in the process of story dictation inventories what he knows and in so doing is led to the identification of what he might say. In this process he brings what he knows to a new level of awareness, organization, understanding, and binding with what was previously known.

Any set of research protocols permits exploration of the relationship between available demonstrations and language learning. In reading environmental print a simple, "What?", said when we truly didn't hear the child's response, demonstrated to some of our subjects disapproval and more often than not resulted in their changing their response. In our letter writing tasks the inclusion of an envelope on the table as our request was made acted as a complex sign which resulted in children more frequently engaging in the task we wanted--personal letter writing--than in the writing of letters of the alphabet--what 'letter writing' meant to them given past experience at home and preschool. Initially we saw much of this as problems with our research. In reassessing what's involved in literacy and literacy learning we now see it as data.

As we look across these and other data we must conclude that language is its own experience. Theoretically we might say that we, acting as representatives of our interpretive community, in social interaction with our informants, helped them and they in turn helped us identify what were the significant demonstrations from among those which were available. Our, and their own speech, and repeated actions, acted as ready signs to on-going and expected forms of psychological and sociological action. As participants in these settings both they and we came to them expecting to make sense and have what we perceived be sensical. Using signs available in the cue complexes formed by text in context, we and they accessed past, recent texts which shared key features and used these as an initial base upon which to create a text that was appropriate to this context. If and when conflicting information presented itself during the languaging event; that is, when either we or our informants sensed that these past texts were not serving well, we began a search for new relationships among the demonstrations that were available abstracting out of these key behavioral, linguistic, contextual, and affective cue complexes which signified for us the key demonstrations. These experiences expanded both their and our notions of the potentials of language in this setting and caused them and us to reorganize and reprioritize expectations about language in this setting. This process was cyclic. What they and we learned from this language encounter became and becomes the anticipatory frame for subsequent encounters.

3.0 CONCEPTUAL AND METHODOLOGICAL IMPLICATIONS IN CURRICULAR PERSPECTIVE

While we as professional language educators and as adult members of the child's linguistic community know a lot about language, children must discover it for themselves in the supportive environment of a linguistic community. In this social process of making it their own, children make and contribute their own language discoveries. An interesting thing happens to what the linguistic community knows about language in this process. Using the child as our informant, we learn more about language and children's potential for language than what was initially known.

Just as children must reinvent language from the inside out, so researchers must discover what others may have already thought known. In this process of rediscovery--of making it their own--the researchers as well as the research community often learn more about language and children's potential for language learning than was known.

The contributions which we discuss in this section sometimes confirm, but inevitably alter, and extend what we and others know. Language research, like language itself, is a potential. We argue that it is a potential the profession can use to explore and discover curricula; not only a better language curriculum for children, but for itself.

Curriculum, in a "real" sense, is what is experienced; it is the result of transactions between language users at a point in time as they engage in a planned activity. Both language teachers and language researchers in developing paper curricula must begin by attending to these transactions. Using this as their data source the paper curricula they develop have as their sole function perspective. Without the data obtained from the child as informant, curriculum development cannot occur, only curricular entrenchment and curricular estrangement. Given the number of myths about language and language learning we uncovered in this program of research, we now know this is unfortunately true of both teaching curricula and research curricula. Because of the relationship to the "real" curriculum, the paper curricula we develop for our research or literacy programs must always be written in pencil.

Just as this process of reinvention gives the child's language its own quirks and personality, while earning them a linguistic birth certificate, so too, we endow past curricular efforts with our own personalities, our own quirks, our own birthmarks. This is not only a professional inheritance, but a professional right and responsibility.

As language educators we see our role as well as our involvement in child language research as serving an educational function. Section 3.1 provides a synthesis of the patterns we identified for purposes of redefining literacy and literacy learning implicitly setting a new theoretical base on which to design both instructional and research curricula. Section 3.2 revisits our working hypotheses for purposes of (1) clarifying how our thinking has changed over the course of this program of research, and (2) identifying what we see as some of the methodological and conceptual implications of these clarifications for research and instruction. Section 3.3. provides a curricular frame for both research and teaching which our program of research has led us to hold and which we believe to be a more productive one whereby the profession might proceed in their study of literacy and the development of a theory of literacy instruction.

3.1 REDEFINING LITERACY AND LITERACY LEARNING: A SYNTHESIS OF PATTERNS

This section summarizes each of the major patterns we identified in our program of research for purposes of highlighting key psycholingustic and sociolinguistic processes involved in literacy and literacy learning. The function of this section is to synthesize these findings for purposes of redefining literacy and literacy learning. Because this summary represents a synthesis of what it is we believe we came to understand about the process of literacy and literacy learning from our program of research, a curriculum for both teachers and researchers is implicitly sketched.

Organization. One of the first things we noted in our study of children's reading and writing responses was the variety and quality of organizational patterns it entailed. Children's written language responses were found to be organized pragmatically, semantically, syntactically and graphophonemically. General organizational patterns were identifiable at each age level, while specific organizational patterns were found to be a function of culture, experience, and the latest discoveries and interests of the language user.

The organizational decisions which young children make do not appear to be made for different reasons, nor are they qualitatively different from the decisions other successful written language users continue to deal with at a conscious or intuitive level when involved in reading or writing. Psycholinguistically, what characterizes all written language users is that having perceived and inferred the function which a particular organizational pattern or signifying structure of written language serves, attention is freed to sort out still other patterns. The organizational features or patterns to be attended to seems to be a function of what language features are highlighted in a given instance of language use, given the language user's interests, prior experience, and purpose. While there is no order to which organizational features or patterns will be attended to, the simultaneous search for new signifying structures and surface text organizational structures by which to code and confirm linguistic discoveries are cognitive processing universals which characterize the literacy learning process.

Intentionality. One of the cognitive processing universals in literacy is the assumption, on the part of the language user, that written marks are signs which have the power of signification. This recognition of written marks as cultural objects, or signs which signify, occurs early and represents access to the fundamental structure of literacy. The very fact that children engage in the making of marks on paper attests to the fact that they have discerned this universal in literacy. This is true even before the child can tell you what the marks he or she produced say. Sometimes young children, for example, make a mark on paper and ask, "What does this say?" (Angela, age 5), or "What did I write?" (Kibi, age 5). While these questions indicate the child's markings do not sign a specific meaning, the very question itself means that the child is making the assumption that such markings should be or have the power to signify meaning. Given the fact that the writing of even the very youngest children reflects intentionality, such demonstrations are evidently readily available and learned very quickly by children in this society as they encounter written language.

The assumption of intention, and the access to literacy it represents, governs any written language user's very first markings as well as his or her present ones. Readers and writers who produce what we initially perceive as nonsense appear to be an exception. Despite the fact that the intention another reader or writer may attribute to a sign, may differ from what intention the child assumed was signed, from the child's perspective, the response is an attempt to make a meaningful response given what he or she perceives to be called for in this context. Unconventionality does not deny intentionality.

The importance of the assumption of intentionality is that it is a propelling force in literacy, setting in motion cognitive search strategies whereby significance can be deduced. Further, it is this assumption which governs every literacy discovery from the initiate's very first insight, to our own latest accomplishment. Even when we have well-developed assimilative schema, the encountering of the unpredicted signs intentionality and sets into motion interpretive procedures and strategies. Prior literacy experiences may heighten sensitivity to objects which may serve as signs, but do not diminish the central role this assumption plays in all instances of literacy learning.

Generation. In use, language is an open system which permits the maintenance and generation of meaning. This observation describes any instance of language as well as the language process itself.

As a reader of our own writing we may decide that what we wrote was exactly what we wanted to say (even, when later, our editor tells us the thought is not written in sentence form), what we wrote was not what we meant, or even that, we like what we wrote better than the thought that generated the process in the first place. As a reader we may be pleasantly surprised to find in rereading a book, concepts and ideas we never knew were discussed, be dismayed when we cannot find something we wanted to quote because evidently the author never said it, decide upon hearing the author speak that he or she is a better writer than a speaker, or even that we can talk about the author's concepts better than the author himself or herself can.

Such discoveries, whether the result of reading, writing, speaking or listening, force us to cognitively take a new stance on language. In this process we have new opportunities to learn how to use language to better serve our communicative ends, to objectively think about how language works, and to assess how what we said ties to the other things we wrote and know. From a cognitive processing perspective engagement and re-engagement in the process increases the opportunities language users have for self-discovery of the generativeness and educative aspects of language in use. These functions within the process are inherent in the process itself and are universal. In use these functions are as available to the initiate written language user as the more experienced.

The generativeness of language does not deny the value or importance of the meaning maintenance functions of language. Language psychologically and sociologically, however, is much more than convention as a medium in the process of literacy and literacy learning.

Risk. Since language is an open sign system, risk is necessarily a central feature of the process. Without risk there can be no exploration nor discovery of the generative potentials of literacy. Over-emphasis on the maintenance aspects of language discourages risk.

Written language is almost a perfect medium for the mind to work with, because cognitively (1) all that we know about language cannot be attended to at once, and (2) our latest language discoveries are always more fun to think about than that which we already think we have sorted out. The process leaves a revisitable trail. In so doing, writing allows the mind an opportunity to do what it considers exciting--think about, attend to, and record the new--while simultaneously permitting, via the convenience of another literacy--reading, art, speaking, etc.--the opportunity to revisit, reflect, and orchestrate these latest discoveries with the known. Given the make-up of human cognition, this arrangement metaphorically allows us to have our cake and eat it. Cognitively it allows us to not only fine-tune language but thought. In writing it allows us to code and overcode demonstrations via use or invention of signifying structures.

The trail we leave during the writing process reflects these penchants of the mind. Being psychologically, as opposed to conventionally, functional, the very process itself can scare both participants and observers. When this happens withdrawal from the process can occur. Since one can not learn this process, to say nothing about fine-tuning it, except in use, such efforts to eliminate risk are dysfunctional.

Since there is no good way, nor no good reason to alter how the mind naturally works, understanding these penchants and the advantages they serve literacy is important. The psychological centrality of risk is naturally supported sociologically by virtue of the fact that it is an event which occurs through time. What time allows is opportunity for reengagement and refinement of the functional litter of literacy. The role risk plays in the literacy process needs to be supported, facilitated, and reflected in the advice and programs we provide and design for written language learners of all ages.

Social Action. Sometimes we seemingly forget that language is, by its very nature, social. Not only do writers assume readers, and speakers assume listeners, but interaction with real or supposed social others involving all of the expressions of language are an integral part of any instance of the language and language learning process. Because the psychological and sociological benefits of written language literacy are available to literates and even illiterates who are present in the event, print is a necessary, but not a sufficient, condition for understanding literacy and the processes involved in literacy learning.

While in the final analysis each language user and learner must do it for him or herself, he or she is never psycholinguistically on their own. Psycholinguistic activities are sociologically available to language learners as they participate in a literacy event observing other language users engaging in the process. In a literate environment, identification of objects which are considered culturally significant signs (like written language), as well as what these signs signify in terms of psychological and sociological stances and actions are available through observation of the participatory activities of others engaged in the events.

Understanding that one stops a car at a stop sign, eats at a McDonald's, or attends very carefully to story details to be successful in this classroom, is not something one learns by abstracting thinking about print, but by inferring relationships between print and the actions of other participating representatives of the culture. While language labels like words are arbitrary, the psycholinguistic and sociolinguistic actions they sign are concretely referenced through a variety of experiences and encounters with language in use. Language is a sociopsycholinguistic process, not just a psycholinguistic one.

These findings suggest that how one learns written language is not different from how one learns oral language. Further, they illustrate how valuable the opportunity to encounter literacy in a wide variety of written language events is for each of us. The sociopsycholinguistic process by which we made our last written language discovery is no different from how we learned our first. What makes a good written language learning environment for us, makes a good written language learning environment for a child.

Context. Often we mistakenly assume print is the linguistic sign in literacy. In reality the linguistic sign is formed by the union of text in context. This is why words mean different things in different settings. The 'S-T-O-P' on a stop sign, signs "Stop." The same logo embedded in an advertisement with Ban Underarm Deodorant signs, "Ban stops wetness." To still another language user the sign is interpreted as a confirmation of the regulatory function of all environmental print. Situational context is not something one can consider or not consider--it is not a variable; it is an inextricable part of the thing we call a linguistic sign.

Embedded in text is context. The contextual rules of language use (pragmatics) reflect themselves in the semantics, syntactic and graphophonemic systems of language. Since context is embedded in language, it is also signed in the part of language we call print. In its function as a contextualized surface text, print psychologically and sociologically signs to the language user what interpretive actions and activities to take. This is as true of the language of classrooms as it is of the language of research reports such as this one. Psycholinguistically and sociolinguistically language is always 'whole' in all instances of use. Since both language and classrooms are inherently social activities, classrooms have the potential to be qualitatively natural language learning environments in which quantitatively a greater number of opportunities for engagement in productive language learning circumstances is increased.

Text. In the production of signifying structures in order to mean in writing, a surface text is created. This surface text is different from the real text which remains in the head of the originator.

When someone else reads this surface text in search of signifying structures and interprets their significance a new text is born. The constructive processes of creating texts in reading and writing are thus open. This openness is assured because our perception of signifying structures, and what they mean, is in part a function of the transactions which occur between context and the personal history of literacy we bring to the process.

Just as writing does not entail simply taking what we know linguistically and translating this into written language, so reading does not entail taking written language and simply translating this into linguistic thought. Because both of these processes involve other than linguistic ways of knowing, semantic negotiation and orchestration between and across communication systems are central characteristics of the psycholinguistic processes involved in text creation in reading and writing.

Such psycholinguistic activity takes place within the context of our personal histories of literacy which include the past texts which we have created to make sense of our world. The search for unity within the evolving text and with past texts creates psychological tensions which propel the reading and self-correction process, the writing and revision process, as well as the learning process more generally.

Demonstrations. It is through encountering the demonstrations of literacy in the actions and artifacts of the event that language learners come to perceive the organizational patterns or signifying structures involved in written language and what it is they are to make of them. Since attending to and making sense of available demonstrations is in the self interests of the language learner, language users of all ages are extremely sensitive to any demonstration which they perceive to be a potentially predictable sign or signifying structure. Practically, this means that the language user is never bored with the process, no matter how many times he or she self-selects the opportunity to encounter or engage in a particular literacy event. Once the significance of one organizational feature of language has been perceived, the language user actively searches for unity by orchestrating and reorchestrating this discovery in terms of extant assimilative schema. If a tentative unity, or an unresolvable disunity occurs, attention moves to other more interesting and compelling demonstrations in the setting. Because the mind is constantly learning and refuses to be bored by attending to what it already knows, when the language user decides there is nothing new to learn, or what there is to learn isn't worth the effort, attention automatically shifts elsewhere.

This process of attending to and orchestrating available demonstrations is never-ending. Language is laced with organization and is an open system--meaning; in effect, the language user can attribute organizational patterns or invent signifying patterns which from someone else's perspective were not there. Similarly, the communicative efficiency and effectiveness of a written language setting is enhanced when the complex of available demonstrations signs a unified meaning. Instructional settings designed to support written language literacy must be interested in not only which demonstrations are made available through the content of what they teach, but also through how they teach that content.

There is no sequence to the order in which the demonstrations involved are inherently learned. Which demonstrations are learned is a function of which demonstrations are highlighted. The context in which literacy learning occurs strongly affects the nature and direction of literacy learning. Since literacy growth can only occur in settings which contain or call for demonstrations for which we have only partial assimilative schema, good language learning settings are those in which language users are only tentatively satisfied, and where they assume that with continual engagement they would be able to code, overcode, or interpet other organizational features in the texts they read or produce.

The search for invention and orchestration of these signifying structures is governed by the search for text and the creation of a unified meaning. Because of the human mind's penchant for cognitively setting aside the old, while focusing on the new, signifying structures previously understood, but not functionally the focus of attention, seemingly reappear in surface texts when language users have continued opportunities to engage and reengage in the event.

In the search, identification, and interpretation of signifying structures for purposes of creating a unified meaning, language users make active use of the alternate communication systems and the alternate expression of language. Psycholinguistically and sociolinguistically what these alternate communication systems and expressions of language offer users are alternate stances whereby they can triangulate their learning of, about, and through written language. In this continual process of learning written language, learning about written language, and learning through written language the individual and societal potentials of literacy in a service of, and expression of, the human potential occurs.

3.2 CONCEPTUAL IMPLICATIONS IN CURRICULAR PERSPECTIVE

Science proceeds on the basis of belief not fact. In designing research and planning curriculum we must, in light of what is then known, take our best shot, while simultaneously designing settings where those beliefs are vulnerable and growth is possible. When old beliefs are found wanting, new beliefs, which better fit the data, need to be generated. This section revisits the working hypotheses upon which we built this program of research for purposes of clarifying how our thinking has changed, and identifying what we see as the methodological and conceptual implications of these changes for purposes of studying written language and written language learning.

3.2.1 THE SYSTEMS OF LANGUAGE

When we began this program of research our review of the literature suggested that if linguists and sociolinguists were right, no system of language could be profitably studied in isolation of the other systems of language. The model of language we adopted conceived of language as made up of three systems of language: semantics (meaning), syntax (grammar), and graphophonemics (letters/sounds). Our working hypothesis was that children as written language learners accessed the semantic system of language and that it was this access which led to control of the graphophonemic and syntactic systems. If such a position were not tenable, that is, if control of the graphophonemic system were indeed prerequisite to access of the reading and writing processes, the data we collected in this program of research would force us to abandon this position.

In hindsight we did not have to abandon our model, though we did have to expand it in that our initial hypothesis proved faulty. We no longer believe control of meaning precedes form in written language development; rather, in use, form and meaning transact, with form clarifying and generating meaning, and meaning governing revision of surface text forms in both reading and writing. We introduced the concept of 'text intent' to explain this phenomenon. Our data suggest that the decisions which children make are 'orchestrated'; to make a semantic decision is to simultaneously have made a syntactic and a graphophonemic one.

Given this insight we began to see the systems of language as not "real" in any sense of that word, but simply as linguistic devices researchers have used to discuss the complex phenomena called language. We have also come to understand and appreciate the conceptual advantages and dangers of such a procedure. The advantage is that such taxonomies allow us to talk about complex processes. To date we, too, have no other alternative terminology and so only unfortunately continue this tradition. The danger is that once we and others put such reductionistic terminology and analytic devices on the floor, others, like cognitive psychologists, use it to think with and conceptualize cognitive processing models for language. Often while they accept the reductionistic categories in the taxonomies, they do not accept the constraints that any system of language operates in isolation. While the models they develop often have data to support them, this data more often than not has been collected with research designs which violate this later premise. As a consequence, this process leads to the positing of cognitive processing models for language which suggest language users make a series of semantic, syntactic, and graphophonemic decisions in processing language. Soon the literature is replete with talk of 'top-down' and 'bottom-up' processing, or combinations of the two under different conditions, proficiency of reader, etc., and a 'compensatory hypothesis' is born. The end result is that the taxonomic device, rather than move the profession ahead, causes it to become sidetracked and confused in issues which were never real language issues in the first place.

We have, for example, no evidence from this program of research that children make a series of isomorphic decisions relative to each system of language in either learning or using language. Our data instead suggest that children made a single decision and that decision is 'textual'. The principle that guides their search is: "What's the right text for this context?" We have found that even responses which appear to represent attention to the graphophonemic system (i.e., "Cro-Cro-Crost" [Leslie, age 7] when shown a Crest toothpaste carton and asked "What does this says?"), are in reality textual. This first grader's experience in reading instruction focused on sounding out words, and because we looked like teachers and collected this data in a room in the school, Leslie's response of "Cro-Cro-Crost," too, represented attempts to interpret what she perceived to be the signifying structures available in this setting and to produce an orchestrated text to fit the context.

Further, and as a result of this program of research, we no longer believe in, nor would we again use the term 'control' in relationship to language. Imbedded in the use of this notion is a latent belief that language is a perfectable absolute. Our data show that language varies by the context of situation and that no two language events are exactly the same. Each and every instance of written language use calls for active, on-the-spot, decision-making based on one's interpretation of perceived signifying structures particular to this context in an attempt to create a successful text.

Notice also our use of the phrase 'successful text.' We now prefer this term 'successful' to others which we have tried. In this search we tried and abandoned the phrase 'appropriate text', as that phrase reflects an outsider's, rather than an insider's, view of language. If one holds or adopts a theory-of-use perspective on language, then, if a language user produced it, it has to be 'appropriate'. From the language user's perspective the text was appropriate; whether or not it was successful the language user and we can judge given the subsequent course of the event itself.

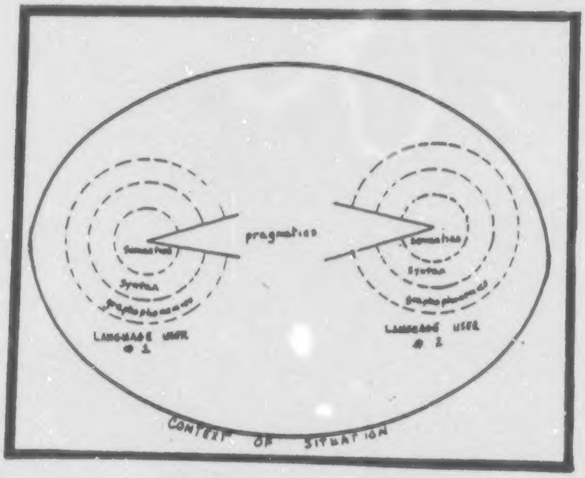
For similar reasons we have also avoided as much as possible the use of the term 'proficient.' The problem with this term is that the way it is currently used in most of the literature it assumes that 'proficient' is a monolithic state; either a reader or writer is proficient or he or she is not proficient. Used in this sense, proficiency becomes a blocking variable in many language studies. When used in this fashion, 'proficiency' appears to be a state a language user enters and assumes literacy to be a monolithic skill.

Our data suggest language users are successful in some settings, but less successful in others. 'Successful' is a term which while not totally adequate, permits us for the time being to focus our attention, and those with whom we interact, on a particular instance of literacy without buying into what we've called the "light-switch theory of literacy" (either you have it or you don't).

These are not related asides. How one conceptualizes language is important. This program of research has altered our notions of the systems of language by forcing us to discover pragmatics (the social rules of language use in a specific context) as a true fourth system of language. As a result of this program of research we have come to see the linguistic sign as not phonemes (oral language) or graphemes (written langauge) + syntax + semantics + pragmatics, but rather these cue systems in transaction with each other and the cue systems of other communication systems. Alter the context of situation, and pragmatics (the rules of language use in this context of situation) changes, and with it how the semantic, syntactic, and graphophonemic systems operate.

Figure 45 is an attempt to conceptualize our current model of language. This model suggests that pragmatics is the system that binds language users together in a language event. By viewing any instance of language as always involving two language users (even when one of them is a book or more generally written language), what rules operate in a particular language situation is open to negotiation between the participants in the event. This is why we may read a book for purposes which the author never intended, and also why studying the book will in itself not lead us to identifying signifying structures and hence processes involved in comprehension and comprehending.

Figure 45. Language as a Social Event


pragmatics
Semantics
Syntax
Graphophonemic
LANGUAGE USER
# 1
Semantics
Syntax
Graphophonemics
LANGUAGE USER
# 2
CONTEXT OF SITUATION

The dotted lines in this model are meant to suggest that all systems are open. When pragmatic negotiation occurs this change in rules reflects itself in how the semantic, syntactic and graphophonemic systems operate.

An example of how this model applies involving settings used in this program of research might help clarify this point and the model itself. At first glance much environmental print, like the 'DRIVE THRU' on the marquee at McDonald's seemingly does not have a true syntax. This, we now understand, is untrue. The rules of language use in environmental print settings (the pragmatics of the context of literacy) specify not only the syntactic patterns, but also specify and legitimize spelling patterns. In this instance, the spelling of the through, T-H-R-U, and in contrast to other spelling possibilities which also might be legitimized for use in this setting, operate as a potential sign. In our city a competing restaurant went up across the street from McDonald's with a marquee which said 'DRIVE THROUGH' as opposed to 'DRIVE THRU'. Given what we know about language from this program of research we now would hypothesize that language users would search for signifying structures like this in this setting (THROUGH vs. THRU), assume intentionality, and infer that this new restaurant was attempting to purposefully say something different. By studying how language users interpret this new marquee in relationship to the McDonald's marquee, we could come to understand its sign function and the interpretive procedures involved.

Research Implications. Because the basic premises underlying the model of language used in this program of research were expanded, but not found untenable, some of the conceptual implications for research of the position expressed in our revised model are the same as in the original. To clarify our current position, these and other implications for research involving the study of language and learning are sketched below. This list is meant to be suggestive, not exhaustive.

1. Since language only exists in use, functional real natural language settings where all systems are allowed to transact are more profitable ones for developing theory and curriculum than are controlled language settings which have built into them basic assumptions about language which are in need of testing.

2. Important research and curricular positions taken by the profession which are based on research results which have attempted to isolate the systems of language for purposes of study, need to be replicated in functional, language situations where all of the systems of language are permitted to operate simultaneously and in transaction with each other.

3. Because language use and learning is context dependent and a relationship always exists between constraints operating in a language setting and the linguistic resources called upon and used by language users in this setting, contrastive settings are helpful in highlighting these transactions and exploring key processes in language and language learning.

4. Given that reading and writing are social processes, researchers must recognize, and accept pragmatic negotiations as real

data, including in their analyses descriptions of their own involvement and influence during the course of the event. Further, because language is an event which takes time and occurs between language users, researchers must attend to, and record, how the rules of language use change over the event and how such changes continually alter and influence all aspects of language as well as the event itself.

Instructional Implications. Instructionally, the implications of perceiving language as a social event are far reaching. Theoretically based instructional positions and activities which flow from this model follow:

1. Reading and writing are tools which language users use in the process of getting things done. The reading and writing curriculum should not be isolated from other curricular areas, but rather be a natural and functional part of opportunities selected by the class to explore their world. The curricular issue is not what we can teach children about written language, but how we can use reading and writing naturally and functionally to support children in their learning.

2. Given that written language learning occurs through written language use, and that written language literacy is central to school success, reading and writing should be highlighted in all classrooms, including the preschool. Our recommendation is that teachers litter the environment with print. We have found a reading center and a writing center located or moved into the middle, as opposed to a corner of the classroom, dramatically increases children's involvement with

books, paper and pencil. Any and all opportunities to naturally introduce print should be taken.

3. Language users learn written language through meaningful encounters with print. Children, as active written language learners, should be given multiple opportunities to test their written language hypotheses in a low-risk environment. Open-ended language arts activities in which the child is permitted and supported in the testing of his or her written language hypotheses are recommended.

4. Written language varies by situational context. Teachers have a responsibility to introduce children to a wide variety of written language contexts as they provide children opportunities to expand, explore, and discover their worlds. Daily journals, newspapers, message boards, pen pals, recipes, menus, environmental print, and other functional uses of written language in addition to stories and trade books in content areas should be a natural part of all classroom environments. In preschool classrooms a note pad by the telephone in the play area, a 'sign in please' activity whereby children take their own attendance, a grocery store, a restaurant, a post office and other settings provide natural and functional uses of written language. Since language varies by the circumstances of use, letter writing as well as story writing should be done under a number of different settings. Predictable books (Rhodes, 1981), jump rope jingle books, and environmental print walks (which can lead to the making of class and child composed product books [Melz, 1980]) are further suggestions. The role of the teacher is to help children understand the predictability of print in a wide variety of contexts.

5. Choice is an integral part of the language process. Participants in a language event have the right as responders, for example, to ask another question rather than answer the question asked (pragmatic negotiation), or as writers, to decide to allocate parts of their texts to art, context, inference, etc. (semantic negotiation). These rights need to be respected in the classroom. Teachers' efforts to introduce new contexts of literacy and expand the child's world should be handled as invitations. We have found that once a child engages in an activity and shares his or her work, even the initially not well-received invitations gain in popularity.

6. The focus of language in use is meaning. Instructional activities should not isolate the systems of language for formal study, but rather, such explorations, too, should be a natural and functional part of the child's exploration of reading and writing as they use written language to explore their world. This does not mean that educators cannot identify materials which highlight particular organizational features in written language which they see as central to understanding literacy in a given context. But, it does mean that any such feature identified must be naturally highlighted within real written language settings and the child's right to select or reject attending to that feature, testing instead his or her hypotheses, respected.

Similarly, which features of written language are learned and in what order they are learned is a function of context, purpose, interest, and the background of experience of the language user. Analysis of a sample of children's writing and reading efforts over time permits identification of which organizational features have already been attended to as well as what are current interests and zones of proximal development in children. In light of this information particular instructional activities might be selected or developed to support the child's exploration of literacy, given that such activities represent real instances of written language use.

7. Written language learning and use involves orchestration of the cue complexes of literacy in a particular context. Free access to a wide selection of writing materials and writing instruments ought to be centrally available and a permanent part of the classroom so that children might choose items they see as appropriate given the context and purpose of their writing.

8. When reading and writing events take place in classrooms, where participants have unequal social status, teachers must be particularly careful of not taking ownership of the process away from children. Our role as teachers is support of, rather than intervention in, the learning process. As teachers we can organize the social environment of the classroom to support the language user's perception, organization, and presentation of texts in reading and writing.

3.2.2 THE ROLE OF LANGUAGE IN A SYSTEM OF KNOWLEDGE

When we began this study we believed that in order to speak about language we had to discuss the relationship between language and thought more broadly. We believed alternate communication systems represented alternate literacies which interacted to support any specific literacy (like written language literacy). Conceptually we saw the sum of what we as individuals and society knew across communication systems as constituting a 'communication potential' of which language was but one system. Our working hypothesis was that strong systems for the language learner (like art) could support weaker systems (like written language).

While the findings of this program of research support this position our initial thinking about the relationships involved between language and the alternate communication systems in the service of literacy learning proved extremely simplistic. We no longer believe such neat distinctions between language and the alternate communication systems possible. Alternate communication systems not only support language, but language supports alternate communication systems. Children as frequently moved from writing to art as from art to writing.

Further, we came to understand that in use, the 'linguistic sign' is a cue complex which is multimodal in nature. Cue systems from alternate communication systems are embedded in and make up this linguistic cue complex. This is readily evident as we have shown in environmental print settings, the asides children make in reading, and in the surface texts which they produce in writing.

We believe that this is true for all surface texts whether they be the result of oral or written language encounters. We believe that is why, for example, some poetry must be seen while other selections must be heard in order to experience their effects. Each communication mode adds its own additional signifying structures which must be orchestrated and only in unity with the signifying structures of other available communication modes does the potential meaning of a selection become a perceptual possibility.

Given the reading and writing responses of the children we studied, the multimodal nature of the linguistic sign is a key feature in not only literacy but literacy learning. We now see meaning, in any instance of language as conveyed simultaneously through linguistic (discursive) and paralinguistic (non-discursive) aspects of the event. In written language this is done through formating, type size and thickness, packeting, layouts, charts, graphs and pictures, all of which in transaction with print are signifying structures with the potential in use to sign meaning. In oral language the use of gestures, intonation, and contextual referencing (pointing), contributes to the multimodal nature of oral expression. In short, this program of research forced us to abandon what in retrospect might be termed a 'verbocentric' view of literacy and adopt a semiotic one, where the orchestration of all signifying structures from all available communication systems in the event become an integral part of our study of literacy and literacy learning.

Research Implications. Some of the methodological implications of this position for research are sketched below:

1. Since we do not fully understand what relationship signifying structures from alternate communication systems play in literacy learning, research and curricular studies should be conducted in functional natural language situations where transactions between and among these communication systems can be studied.

2. Methodologically, analytic devices for describing the patterns of linguistic and non-linguistic signifying structures that emerge in the data from research and curricular studies need to be included in studies of literacy and literacy learning.

3. Cognitive processing models on which language and curricular studies are conceptualized must be capable of explaining how linguistic and non-linguistic signifying structures are orchestrated by the language user and operate in literacy and literacy learning.

4. Since any language experience is multimodal, curriculum and research need to be designed so that how we teach or do research in relationship to what we teach and do research on, are coordinated in terms of the signifying structures which are demonstrated by each, and their impact on literacy learning studied. Contrastive settings need to be identified where conflicting signifying structures are simultaneously demonstrated and these settings compared and contrasted with settings theoretically presumed to be more communicatively effective and efficient.

Instructional Implications. In the final analysis the goal of the language arts program involves expansion of the child's communication potential. Activities which involve other than linguistic ways of knowing should be an integral and natural part of the language arts curriculum.

1. As an alternative to questioning, we have found that children can be asked to draw and share a sketch of what they think the story means. Acting out stories which they have read, pantomiming the actions of their favorite character, putting their stories to music, and other such activities heighten awareness and story appreciation. Similar activities can be used in content area reading.

2. Art can be used as a vehicle to help children organize their thinking prior to writing, or as a keep-going strategy when writer block is experienced. Pantomimes can help children get in touch with their feelings and facilitate quality writing. Music can be used to set a mode for reading or writing. Children can be encouraged to select music to go with their oral readings of the stories they write.

3. Free access to a wide variety of art and musical materials should be available in the classroom. Children should be encouraged to create their own props, put on their own plays, create story murals, conduct book sales, create book marks and flyers for their favorite books, etc., often in lieu of the traditional oral or written book report.

4. Signing one's meaning is a complex process. Children should be given ample opportunity to experiment with alternate ways to express their meanings in writing. At the writing center, crayons, colored magic markers, colored construction paper, glue, scissors, etc., should

be available and children encouraged to illustrate their books and other writing by exploring a wide variety of techniques by which they might better capture their meaning.

5. Reading and writing are aesthetic experiences in their own rights. Living through a story read, sensing the rhythm of a poem, a well-written novel, a joke, a jump rope jingle, is a real written language experience in its own right. Written language experiences need not be formally dissected and analyzed for them to be good learning experiences. A particular favorite class poem, song, etc., can be kept in a folder, illustrated by the child, and revisited on a regular basis. Through repeated encounters children can attend to other demonstrations available in the event and appreciation heightened.

3.2.3 READING AND WRITING IN A SYSTEM OF LANGUAGE

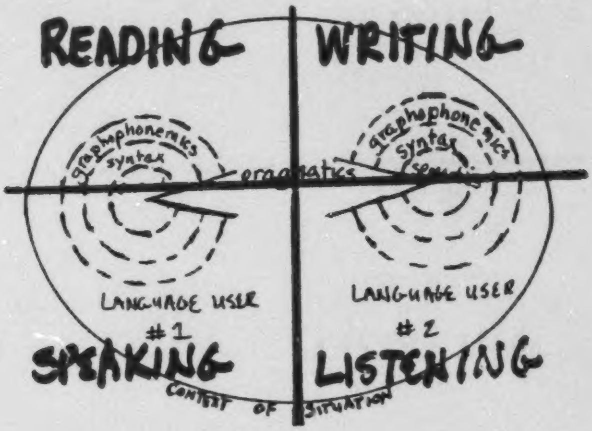
At the start of this study we saw reading, writing, speaking, and listening feeding a common linguistic data pool from which linguistic data was available for use by the language user in a subsequent language encounter. This model posed a parallel development of the language arts where oral language encounters provided data for written language encounters and vice versa. Our working hypothesis was that reading experiences supported writing experiences and that strengths in one expression of language could be used to build strengths in another expression of language.

This model and the data we collected in this program of research did much to clarify our thinking about the relationship between reading, writing, reasoning, and the psycholinguistic processes involved in literacy and literacy learning. One of the first things we discovered, for example, was that a writing event involved much more than writing. Included in the event was speaking, listening, and reading. Similarly, we noted that from the child's perspective, creating a unified text in reading shared psycholinguistic similarities to composing a text in writing. Further, the rereading of one's own writing shared much in common, psycholinguistically, with a process called editing in writing.

From a cognitive processing perspective, the distinctions between reading as a receptive activity, and writing as an expressive activity, did not hold up. Reading was as expressive as writing, and both entailed the creation and search for a unified text.

Conceptually, Figure 46 depicts what we saw as occurring in light of our evolving model of language. What this model suggests is that underlying these expressions was a common language process, and that within a literacy event pragmatic negotiation was possible between the expressions of language.

Figure 46. Reading and Writing in a System of Language

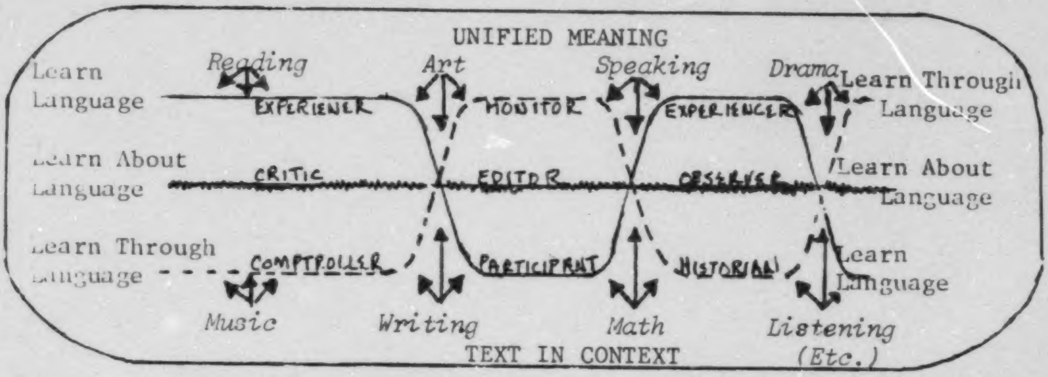

READING
WRITING
graphophonemics
syntax
graphophonemics
syntax
semantics
pragmatics
LANGUAGE USER #1
LANGUAGE USER #2
SPEAKING
LISTENING
CONTEXT OF SITUATION

In this regard, we observed that shifts to alternate expression of language (to pronounce a word orally during reading or spelling, to ask a neighbor a question, to converse with a friend, to listen to a neighbor, to reread the evolving surface text) offered the language user an opportunity to change his or her psychological stance and in so doing his or her sociological role in relationship to the text. As writers going full speed ahead, language users were participants in the event; as readers they were editors and concerned with those signifying structures editors are concerned with; as speakers their questions indicated that they were monitors of what they had written contrasting what they wanted to write, to what they knew or thought others would want or already know. While there was no one-to-one correspondence between mode of expression and role, nor no guarantee of psychological shift, the opportunity for such negotiations of role was available at these points. More often than not the invitation to switch roles was accepted with the effect being a perceptible shift in stance towards the text.

We then noted that moves to alternate communication systems served this same function psychologically for the language user, inviting and permitting semantic negotiation between the alternate communication systems. Conceptually what these semantic and pragmatic negotiations offered the language user were invitations to take alternate perspectives of and on knowing.

Anthropologists use the term 'triangulation' to describe a research procedure common to their discipline whereby the participant-observer studies a phenomenon like marriage from the perspective of the bride and bridegroom, parents of the couples, as well as him or herself. Figure 47 likens the language user's use of alternate communication systems and the expressions of language to triangulation by positing that psychologically they permit individuals (as well as societies) to triangulate or take other stances whereby they can self-verify their knowing. Given the metaphor of triangulation what such shifts and moves in literacy provide the individual is a cognitive self-correcting strategy. As such this model conceptually lays out what we now see as a fundamental process in literacy learning. It argues that a literacy

Figure 47. Triangulation: A Psycholinguistic and Sociolinguistic Processing Strategy in Literacy Driven by the Search for Text in Context and a Unified Meaning


UNIFIED MEANING
Learn Language
Reading
EXPERIENCER
Art
MONITOR
Speaking
EXPERIENCER
Drama
Learn Through Language
Learn About Language
CRITIC
EDITOR
OBSERVER
Learn About Language
Learn Through Language
COMPTROLLER
PARTICIPANT
HISTORIAN
Learn Language
Music
Writing
Math
Listening (Etc.)
TEXT IN CONTEXT

event contains a number of signifying structures and simultaneous demonstrations which are potentially available for interpretation and signification by the language user. From the perspective of literacy and literacy learning these demonstrations provide the language user opportunities to learn how to use written language, to learn about written language and to learn through written language. Within a literacy event language users can and do shift to alternate communication systems and to alternate expressions of language. Each of these shifts allows the language user to take a new psychological stance and in so doing a new sociological one in terms of his or her role and involvement with the text. Each new stance allows the language user an opportunity to marshall what it is he knows about language and search for new arrangements of signifying structures and unity across such structures. In this process of using, and at the same time, learning written language, expansion and exploration of human and literacy potentials occur.

Research Implications. Some of the conceptual implications for research suggested by this model are discussed below:

1. Given the psycholinguistic and sociolinguistic processing similarities between reading and writing within and across a wide variety of literacy contexts, broadly conceived functional literacy programs where opportunities for both language learners and language researchers to further explore these transactive relationships are needed.

2. If the distinctions between communication systems and between the expression of language which we have drawn in the past are dysfunctional from a psycholinguistic and sociolinguistic processing perspective, then curriculum and research are better served using as their organizational structure functional literacy events where such transactions are possible.

3. Since we already know that not all classroom literacy programs are theoretically equally meritorious of study, initial selection of classroom research sites should be done using criteria based on our best information about the transactive relationship between context and the sociolinguistic and psycholinguistic processes involved in literacy. Collaborative arrangements should be built into the design of the study so as to even further explore these relationships as well as enhance the potential of classrooms as functional and natural literacy learning environments.

4. Given the complexity and universality of the psycholinguistic and sociolinguistic processes involved in literacy and literacy learning, settings involving young children and other initiate written language learners where such processes might be studied in their unfrozen form are encouraged for purposes of furthering needed theoretical work and clarifications.

Instructional Implications. Children can be supported in their reading and writing through activities which allow them to change their psychological stances and thus give an alternate and new perspective on the process. Theoretically based instructional positions and activities which we have taken and which build on these insights follow:

1. Writing is an event, not an act. As such, writing is a process which occurs over time and which demands multiple and extended opportunities for engagement and reengagement. Classroom writing programs should be organized to reflect this process. Practically this means large blocks of uninterrupted writing time and recognition of the role of writing as a functional and self-educative process. Convention is a natural part of the process as selected drafts are being considered by children for revision, publication and distribution to audiences beyond the classroom.

2. Teachers need to provide children multiple opportunities to experience the demonstrations available in the actions and artifacts of various types of written language literacies. To this end teachers need to read and write with their children, share their interpretations of selections, and share and seek help from the children with their own

writing when in draft form. Further, as part of the language arts program, authors can be invited into the classrooms, and in a variety of other ways teachers can help children develop functional notions of what is involved in writing. Because of past histories of literacy, many children are overly concerned with conventions such as correct spelling and good grammar. An editor's table can do much to sign to the children that these concerns will be addressed at an appropriate point in the process, but that for now they have to move ahead functionally getting their thoughts on paper. Children must learn that no one can be an editor of their manuscript before they produce one.

3. Reading and writing are social events. Discussions with neighbors prior to, during and after involvement, are not disruptions to the process, but a natural part of the process itself. Successful writers use friends for purposes of discussing where they might go next, what arguments still need to be developed, to verify for themselves that their writing has the effect they desire. Opportunities to build from and use the natural social support of the classroom should be a part of the language arts curriculum. During reading, children can be encouraged at selected points in the selection to say something to their neighbor about what they make of their reading up to this point. Cognitively, these discussions with their neighbors help children access assimilative schemas whereby they might further tie and integrate their understanding. An author's circle might be a regular feature of the classroom where authors might receive ideational and strategic support from other authors in areas they wish whenever they think such support would be helpful to them.

4. From a cognitive processing perspective reading and writing share much in common. Juxtaposing reading and writing in activities which highlight one or the other of these processes can do much to facilitate and support literacy learning. Before writing, books can be made available and children encouraged to read widely in a subject, taking notes on 3 x 5 cards, organizing these cards prior to writing, and using them as a global, but tentative plan for organizing their ideas for writing. Extended units where children read about a subject, write about that subject, read some more, write some more and so on, including experiences which involve the alternate expressions of language and the communication systems should be explored. Dialogue journals (Staton, 1980), and written conversations (Burke, 1980) are informal but functional writing settings which juxtapose reading and writing and in so doing offer the language user the additional support they need.

5. Some of the potentials of literacy can only occur when language users have repeated opportunities to engage in the event over time. The opportunity for children to read a variety of books on a single topic, or by a single author over a period of time allows them to identify what features distinguish this author from others. Letter writing over time allows children to explore the potentials of this genre as well as extend their own letter writing abilities. Asking children to read a selection a number of different times for a number of different purposes--once for the author, once for themselves, once to discover and think about what and why their neighbor underlined the

things he or she did--can help children shift psychological stances and highlight appreciation of the reading process.

3.3 METHODOLOGICAL IMPLICATIONS IN CURRICULAR PERSPECTIVE

The great unfinished agenda item in language research is the identification and development of an appropriate methodology in light of what we know about language and language learning.

Whether you align yourself with those who view the current popularity of field-based studies as just one more passing fad or with others who see field investigations as a panacea for all educational research, it is important to understand that this move by the profession has both theoretical and practical roots. In this section we trace recent shifts towards ethnography which this program of research has led us, for purposes of providing a curricular frame whereby both teachers and researchers might more profitably proceed.

Some researchers have been drawn to ethnographic approaches because of a growing dissatisfaction with conventional experimental designs. Burton (1973) summarizes this position well:

> "Research" has a highly positive connotation in American culture, suggesting the rational, scientific approach to truth and knowledge and is the premium of academe, though in the humanistic-oriented English teaching profession there has been an abiding uneasiness with quantitative methods and perhaps with the empirical approach generally. (p. 160)

From a theoretical perspective this dissatisfaction is more than just a dislike for numbers and a distrust of computers. Language is a particularly human phenomenon (Halliday, 1974). It is this concern for humanism and the role literacy plays in the search for and free expression of the human experience (Emig, 1982) that has led language arts educators to seek out more theoretically consistent research paradigms.

Other language arts educators have been drawn to naturalistic paradigms because they are disappointed by the failure of much recent research to affect teaching and classroom practice. In attempting to play the important role of synthesizer (Goodman, 1979), these educators argue that research which is not understandable and relevant to classroom teachers and administrators fails to serve the educational functions for which it is designed. Kantor, Kirby, and Goetz (1981) argue this point most eloquently:

> Educational inquiry should engage researchers and consumers in dialogue rather than isolate them from each other. The findings of descriptive, qualitative, naturalistic, and holistic approaches are often readily interpretable and couched in the language of English professionals. Such research strategies tend to work more with wholes than parts, with describable phenomena rather than inferential quantification, to use the language of the classroom teacher rather than the discourse of the laboratory researcher. (p. 294)

Theorists like Guba (1980), Mishler (1979), and Carey (1980) have argued that experimental inquiry emphasizes hypothesis testing, control of variables, "stripping" of contexts, educational outcomes, reader-text interactions, generalizability, reductionism, and researcher detachment; while naturalistic inquiry is concerned with hypothesis generation, grounded theory, educational processes, reader-text transactions, contextual relationships such as the effect of the researcher and task on the language process, and participant observation. Without either confronting the issue of what constitutes truth (which we believe to be at the base of these methodological arguments), nor buying into methodological eclecticism (a position we believe further demonstrates a failure to understand the fundamental issues), what we wish to do in this section is acknowledge these discussions, but add our own clarification by suggesting that the shift to ethnography represents both an overdue attitude and a paradigm which might guide language arts researchers and teachers.

3.3.1 THE ATTITUDE OF ETHNOGRAPHY

Research is not only a product and a process, but an attitude. The attitude of research, highlighted by the shift in the profession to ethnography, is "I can find out." This attitude is as important for teachers as it is for researchers. The attitude of ethnography suggests good teachers act like good researchers and good researchers act like good teachers.

Often in our research and teaching we act as if we were the language informants, but such an attitude is misguided. The research attitude of "I can find out" is absolutely liberating not only for teachers and researchers, but also for children. For us this change in attitude is a change from testing our language hypotheses to allowing children the opportunity to test theirs. For children this change in attitude is a change from language observer to language participant; from tenants of our texts to owners of their own texts.

The most liberating experience we ever had as both teachers and researchers, for example, was approaching language use and language learning with the find-out attitude embodied in the concept, "the child as informant."

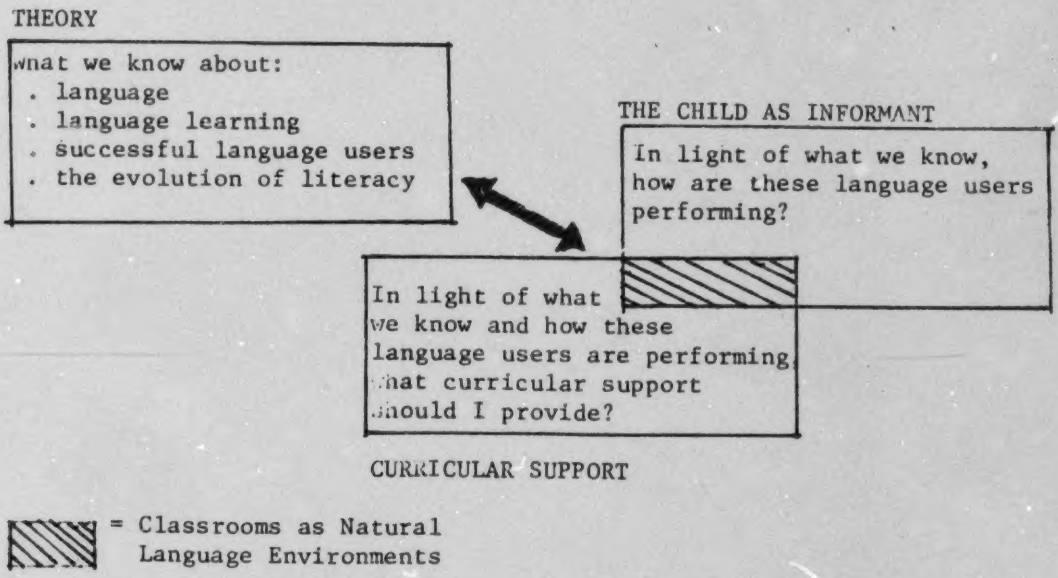
The research attitude of "I can find out" often stands in contrast to the ways research is usually taught and presented in institutions of higher education where the means and ends of research are presented as vehicles of proof, and where, because of this view, research is perceived as something one does in graduate education (knowledge production), but not teacher education (knowledge utilization). The attitude of ethnography argues that all gaps--between language theory and language practice, between the language researcher and the language teacher, between language research activities and language instructional activities, between language research settings and language instructional settings--are dysfunctional and fail, in the end, to serve the profession.

This is not to suggest that there are not many research perspectives on truth, though it is to argue that some research language truths are more useful than others. It is the intention of this section not only to raise key issues in the ethnography of language arts research and teaching, but also to cast these in some conceptual frame whereby the professional teacher-researcher and researcher-teacher might proceed even more productively.

3.3.2 THE PARADIGM OF ETHNOGRAPHY

In order to address and explore these and other research issues more formally, Figure 48 presents a theoretically based view of the language arts curriculum. This model represents current thinking about the relationship among teaching, research, and curriculum. Implicit in this model are suggestions that all language research and instruction are not equal; that certain forms of research and instruction are more useful than others; that eclecticism in research and teaching is not only illusionary, but also dangerous; that a relationship exists between what teachers and researchers know on the one hand and the conditions under which

Figure 48. A Theoretically Based View of the Language Arts Curriculum


THEORY
what we know about:
. language
. language learning
. successful language users
. the evolution of literacy
THE CHILD AS INFORMANT
In light of what we know, how are these language users performing?
In light of what we know and how these language users are performing, what curricular support should I provide?
CURRICULAR SUPPORT
▨ = Classrooms as Natural Language Environments

they know it on the other; that to build practice on practice constitutes anti-intellectualism; that our interest in the language arts as teachers and researchers is in the final analysis an interest in learning; that not all language settings which we could study are equally worthy of our attention; that classrooms can be made to be natural language environments; that supportive language environments are best not only for instructional decision-making, but also for assessing growth and development; that in the final analysis as a profession we are in this together for the purpose of improving language arts instruction and for the benefit of children. This model, while looking quite innocuous, addresses key issues involved in the ethnographic shifts of the profession as they relate to transactions between language arts research and teaching.

The Role of Theory in Research and Instruction. Theoretically the paradigm depicts a transactional relationship between theory and practice. It is meant to argue that instruction must be rooted in theory and by implication suggests that instruction not so rooted is not professionally productive and should be abandoned. The paradigm suggests four key theoretical areas upon which curriculum is built: what we know about language, what we know about language learning, what we know about successful language users, and what we know about the psycholinguistic and sociolinguistic processes involved in the evolution of literacy. By inference it suggests that not only are these areas and their counterparts (alternate communication systems, unsuccessful language users, etc.) fruitful areas for language study, but also that good language arts teachers and researchers are knowledgeable in these areas.

Implicit in the paradigm is a call for conscious awareness, meta-researching and meta-teaching examinations of what one believes about language and language learning. What a teacher or researcher believes in these areas constitutes a set of relations upon which behavior is organized. While not stated directly, the paradigm argues that all research and teaching in the language arts, whether examined or unexamined, is theoretically based (Harste & Burke, 1977), and that researchers and teachers owe it both to themselves and the profession to lay out what they perceive to be key relationships in language learning.

Good language arts research and good language arts instruction not only lay out the theoretical positions it takes on and across language, language learning, successful language users and growth and development, but put such beliefs in a position of instructional and research vulnerability. The shift to ethnography argues that one of the major problems with much current research and instruction is a failure to examine assumptions--assumptions often deeply embedded in the what and how of teaching and research.

Some researchers and teachers even go so far as to suggest that while others are theoretically biased they are in a state of theoretical virginity, as if their decisions to look at what they looked at, or to select a worksheet over a blank sheet of paper, was done in innocence and purity. This paradigm does not ask researchers and teachers to be atheoretical--that's impossible--only honest. It condones neither mad-dog empiricism nor atheoretical ethnography.

Equally important, the paradigm suggests that only when theory and practice stand in equilateral relationship to each other is it possible for each to become a head taller than their current and single selves. When practice is built on practice we have a blatant disdain for research--an anti-intellectual stance--and wasted opportunities. When practice is built on theory, research results can feed back to identify and clarify theoretical constructs. When practice is built on theory, results can feed back to identify and clarify practice. In transaction, then, both theory and practice can become more than either can become separately.

The power of this paradigm is its heuristic stance. It does not guarantee that teachers and researchers do not make mistakes, only the hope for fewer; and those we do make, a call that they merit and demand practical and theoretical attention. It is this generative function of language research and teaching, not the maintenance of our current assumptive language teaching and research, which makes the shift to ethnography by the profession so exciting.

The Child-as-Informant as a Self-Correcting Evaluative Strategy in Research and Instruction. A theoretically based view of the language arts suggests that assessment which does not lend itself to improved theory or instruction should be abandoned. From a curricular perspective, the question to be addressed by evaluation is "In light of what I know about language and language learning, how are these language users performing?"

All evaluation and all evaluation instruments are theoretically based. To the extent that they violate what we know about language and language learning, they must be abandoned and other more theoretically valid measures developed. When applied, this criterion often results in harsh judgments of current instruments and assessment practices.

Often in our attempt to assess the strengths which language users possess, we isolate them from peer support (for fear of cheating), give them materials to read which have no situational support by way of appropriate context (unlike natural reading situations, the reader under the conditions of testing never knows what the topic of his next selection will be), and ask them to deal with topics for which they have little familiarity or interest (this is supposedly done to insure the actual reading of the materials and assure no reliance on background information). Equally often, what such data give us is a picture of what reading looks like under strange conditions. Under normal conditions we read things for which we have a background and in which we are interested, go to materials with a host of expectations about what we will find there, locate the materials to read in a situational context rich with signs to help us access appropriate anticipatory texts, and use colleagues and friends to discuss and clarify our understandings. We use this example to demonstrate that given what we know about successful readers in real language situations, we can then begin to improve research and instructional assessment. The shift to ethnography by the profession does not suggest that cleaning up assessment will be easy, only that it must be guided.

The view of evaluation proposed in Figure 1 suggests that we get our best language data when we put language users in situations which are rich with support, not isolated and deprived of the support available under normal conditions (Vygotsky, 1978). Theoretically this suggests we must use whole natural instances of language as settings within which to collect evaluative data. Since this same criterion holds for any instance of language instruction, this insight allows us to view classrooms as potentially natural language situations. All too often we go out of our way to make classrooms and research settings unnatural.

Interestingly, when viewed in this light, what becomes accented is not only the unnaturalness of most current assessment and assessment conditions in language arts teaching and research, but the need, given the social nature of language, for the development of sociological models of learning. This insight, that currently learning theory is rooted psychologically, whereas language and language learning are rooted sociologically, is a nice demonstration of the powerful transactions possible when theory and practice are juxtaposed as is suggested by the recent shift to ethnography by the profession.

Supporting the Language Process in Research and Instruction. In light of what we know and in light of what language users are doing, what support should be offered? Within "linguistically the least restrictive environment" (Watson, 1980), this decision has two forms: (1) strategy instruction; and (2) the creation of a low-risk classroom aura.

Given, for example, an observation that when afforded opportunity to take text ownership, an informant refused to write saying, "I can't spell," as teachers and researchers we immediately know several things. First, we have evidence that the child perceived the major constraint which stopped him or her from engaging in the process to be spelling. This we theoretically suspect is a learned constraint. Because we know that successful language users cannot worry about spelling at "the point of utterance" and yet be successful (Britton, Burgess, Martin, McLeod & Rosen, 1975), we theoretically also know that we must take action to help the child functionally re-perceive this constraint. Theoretically we know that as long as this constraint governs initial writing efforts the child is depriving himself or herself of the only vehicle--involvement in the process--whereby he or she can grow.

In this instance we might find that a simple, "I'm not interested in your spelling, I'm interested in your writing" would suffice in supporting the child toward coming to see functional writing as a universal strategy in writing for all language users. If our informant had learned his past instructional lesson too well we might have to be firmer and make recourse to dysfunctional strategies more difficult: "No writer can worry about spelling and grammar and things like that when they are trying to first get their ideas down. We'll take care of that later when and if we wish to make our writing public. Right now, let's just get our ideas down before they slip away. Now let's get back to our writing, you made me lose my train of thought." In either of these instances curricular support grows out of theoretically based evaluations in the least restrictive linguistic setting. Such an environment gives us our best developmental data as it helps us sort out language behaviors which are an artifact of instruction from those which reflect communication potential. An ethnographic view of language tells us that there is a relationship between linguistic constraints and linguistic resources. Alter these constraints and you unleash new resources.

Other curricular support grows directly from theory (for various examples see Rhodes, 1978; Crafton, 1981; Hill, 1980). Many language users have been found to have extremely dysfunctional notions of writing (Britton, Burgess, Martin, McLeod, & Rosen, 1975; Emig, 1971; Atwell, 1980; Kucer, 1982). The source of these dysfunctional notions is readily recognized in that no real writer could write under the conditions reported as surrounding much school writing (DeFord, 1981; Graves, 1975; Applebee, 1981). To encourage more functional notions one instructional support unit might have as its focus acquainting children with successful writers through interview of actual writers in the classroom. Not only does this practice have theoretical roots, but it is an ideal source for the identification of teacher and researcher theoretically based support strategies which may, in use, cycle back to further clarify the theoretical constructs from which they grew. Theory, because it affects practice, is much too important to be left in the hands of the theorist. An ethnographical view of language arts says that's what has been wrong in the past.

Reading and reading instruction are not synonymous terms though they should be. Children, we have found, often have one set of perceptions for reading instruction and another for real reading. In conducting a written conversation (an instructional support strategy developed by Carolyn Burke after having observed real language users operate in real language settings), Susan Robinson, a doctoral student at our institution, asked one of her informants whether or not he had learned to like reading now. His telling response, "Which reading?" (Robinson, 1981).

Frank Smith (1981b) advises teachers who feel they must have children engage in at least some of the pseudo reading tasks of much current skill instruction, that the least they might do is inform students that they are about to engage in a "funny kind of reading" and that they ought not confuse this with what they do when they really read. Smith argues that children can live with lots of adult peculiarities.

It shouldn't surprise us, given ethnographic insights into language, if children appear confused when we fail to provide them with support environments in which they might have demonstrated (Smith, 1981a) information on which to make better linguistic decisions. The shift to ethnography by the profession suggests that the fastest way to clean up research and instruction is to throw out all practices not rooted in instances where real language users were operating in real language settings using real language.

3.3.3 CONCLUSION

In the opening of this section we asserted that it was important to understand that the moves to ethnography by the language arts profession has both theoretical and practical roots. This section has attempted to develop the argument that this understanding is important because it represents a call for a new professionalism. At base this move to ethnography constitutes challenges to past definitions of research, teaching, roles, truth, and who is in charge. Moves which call for fundamental professional changes of this sort often create dysfunctional gaps. This section has attempted to assert that if the move to ethnography is cast in the shape of an attitude and a curricular paradigm it constitutes a low-risk, high learning situation for teachers, researchers and children. From this perspective, the essence of ethnography and this report on our program of research is an open invitation to form a collaborative pedagogy.

4.0 THE CHILD AS CURRICULAR AND RESEARCH INFORMANT: CONDUCTING YOUR OWN STUDIES

Included in this section are some representative child-as-informant follow-up studies conducted by teachers, graduate students, visiting scholars, and others whom we have had the good fortune to interact with over the course of this program of research. Some examples of the child-as-informant studies which have been conducted include following a single child throughout a week collecting and observing all encounters with written language (Wells, 1980), comparing the same child's writing under highly constrained and less-constrained conditions (Lovelace, 1981), studying a single preschool child's self-initiated revisions on a single story (Matson, 1982), collecting and analyzing name writing over time by a class of 3-year old children (Hill, 1981; Woodward, 1980), to time useage studies given changes in the location and amount of written language in a preschool classroom (Harste & Harste, 1980). In reality the entire collection of these studies merits a volume in its own right.

In this section we include four such studies which were conducted under our general direction. These are meant to serve as examples of the kinds of studies which readers of this volume might like to pursue on their own. The particular studies selected for inclusion in this volume represent a range of explorations and are meant to suggest that almost any language setting merits our attention and study.

The number of informants to use in your child-as-informant study is not an issue. Until we can explain the behaviors of at least one language learner, we probably should not be too intent upon developing a generalized theory of literacy learning. As long as we find one thing that a language learner does surprisingly there are still revisions needed in our evolving model. Your personal relationship with the informant also is not an issue. We have found that the better we get to know our informants, and the better they get to know us, the more likely it is that we will see what it is that they are really capable of doing. Studies such as these stand in stark contrast to those which attempt to study literacy by doing so under the strangest and tidiest of conditions for the shortest amount of time. Deficits identified in such studies refer more to the research setting than to the child's capabilities.

Since we often assume our role is to teach children written language, rather than support children in their efforts to learn written language, playing a research role can be liberating. We have found no more effective change strategy for teachers or for ourselves. Given that we have just begun to scratch the surface in terms of our understanding of the processes involved in literacy and literacy learning, there is much to learn and no better time to start.

4.1 SPELLING IS EASY . . . IT'S GETTING IT RIGHT THAT'S THE HARD PART: A FUNCTIONAL VIEW OF THE SPELLING PROCESS

by Chrystine Bouffler
Riverina College of Advance Education

When her mother asked her how she would help someone learn to spell, 12-year old Jilda looked puzzled. "What do you mean?" she asked. "Spelling is easy. It's getting it right that's the hard part."

It would be easy, simply to feel for Jilda's dilemma and dismiss her remark as cute. That, however, would be a pity because children in their innocence are often wiser than adults with all their learning and sophistication. Underlying Jilda's remark are, in fact, two important insights that we would do well to ponder. The first is her underlying assumption that spelling is functional, i.e., that it is something that occurs naturally in the course of writing. The second is that there is often a difference between using spelling and achieving a conventional product--a product/process distinction.

There are a number of crucial questions that arise from these insights. If spelling is as Jilda suggests, a natural process, what is the nature of this process, and secondly, what is the nature of convention and how does it relate to the process?

Much has been written about spelling in the last 20-30 years. Perhaps no other area of the writing process has achieved so much attention, particularly from the instructional standpoint. The work of Chomsky and Halle (1968) did much to dispel the view of spelling as 'organized chaos' but the plethora of linguistic spelling schemes, which were the result of applying Chomsky and Halle's theory to instruction, have proved no more successful than their more traditional antecedents and added little to our knowledge of how children learn to spell.

Studies emanating largely from the area of cognitive psychology have attempted to identify various aspects of linguistic awareness and relate these to spelling performance (Marcel, 1980; Baker, 1980). Other studies have attempted to identify specific reading and spelling strategies and examine their interrelationship (Baron, 1980; Marsh et al., 1980), while studies like that of Tenny (1980) have examined the role played by visual memory. One characteristic of these and other studies reported by Frith (1980) is that they rely heavily on the use of pseudo words or lists of words chosen for their adherence to, or deviation from, established phonological rules.

Another set of studies was prompted by the work of Read (1975). Although Read's study was of children's categorization of English speech sounds, it nevertheless proved that children's spelling errors were not random occurrences and were in many cases based on sophisticated phonetic decisions which while not consistent with those made by adults were, nevertheless, based on clearly identifiable principles. A number of studies reported by Henderson and Beers (1980) have extended Read's initial study and attempted to identify the characteristics of children's spelling across grades. Zutell (1979) in particular related children's spelling development to the Piagetian notion of decentration.

To some extent these studies have been able to show some similarities in spelling patterns across children and some developmental tendencies, but if we turn to the writings of children rather than tests designed to elicit specific rule related spelling responses it becomes obvious that there is much that is idiosyncratic and left unexplained. To explain language behavior under experimental conditions is not necessarily to explain it under conditions of natural usage, and it is the conditions of natural usage which are of prime importance to education.

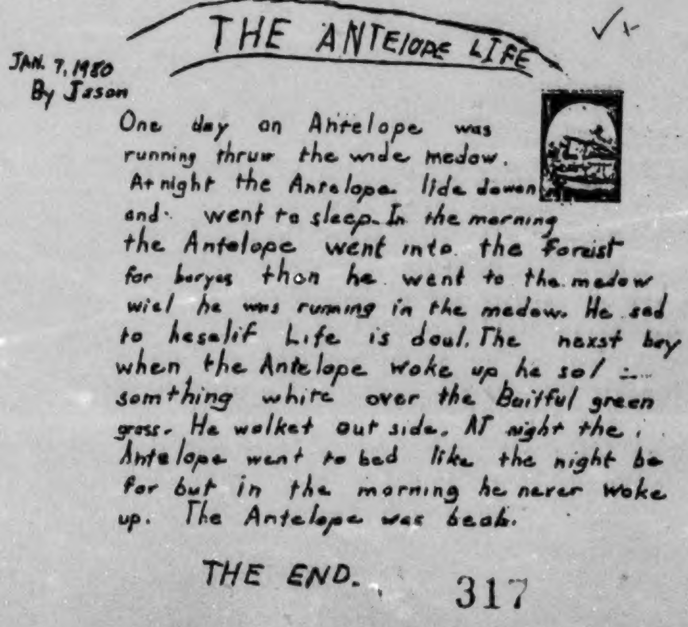
Harste et al. (1982), as a result of their study with young children and their initial encounters with print, have done much to broaden the base for studying children's spelling. They have identified a number of strategies used by children to encode meaning in graphic form. Six of these can be identified as spelling strategies viz.:

1. Spelling the way it sounds. 'U' for 'you'; '/////' for 'my name is Lisa'. (Each stroke represents a syllable); 'DA' for 'day'.
2. Spelling the way it articulates. 'CHRIDAGEN' for 'tried again'; 'BRIF' for 'brief'; 'USLIP' for 'asleep'. This category also includes phenomena identified by Read such as the omission of the preconsonantal nasal, e.g., 'KIG' for 'king'.
3. Spelling the way it looks. 'FRO' for 'for'; 'YUO' for 'you'; 'WHIT' for 'with'; 'TIMSE' for 'times'. In these cases the spellers have all or most elements of the word through not necessarily in the conventional order.
4. Spelling the way it means. 'REFRIGERATORED' for 'refrigerated' (to put in the refrigerator); 'AXLACUTTED' for 'guillotined/

executed'; 'WASUPONATIM' for the semantic unit 'once upon a time'; 'AOX AOX AOX' for 'kittens', 'AOX' being 'cat'. This is similar to a linguistic convention used by some Australian aboriginal languages where plurality is indicated by doubling the word, e.g., 'WAGGA'—'crow', 'WAGGA WAGGA'—'crows'.

5. Spelling the way I have solved similar spellings. 'TOOL UP' for 'tulip'; 'REALISTICK' for 'realistic'; 'LOVE A BALL' for 'loveable'; 'FINELY' for 'finally'.
6. Spelling by my rules or someone else's rules. 'PIZZIE' for 'pizza' with the accompanying remark "I know it's not spelled the way it sounds"; 'ALSOE' for 'also'.

It would be an oversimplification to believe that any one spelling was simply the result of applying any one of the strategies outlined. Each spelling, in fact, reflects a complex orchestration of language decisions. Several strategies may be involved at any one time. The following is a story from ten year old Jason:



THE ANTElope LIFE ✓

JAN. 7, 1980
By Jason

One day an Antelope was
running thruw the wide medow.
At night the Antelope lide dowen
and went to sleep. In the morning
the Antelope went into the Foreist
for boryes thon he went to the medow
wiel he was running in the medow. He sed
to heselif Life is doul. The nexst bey
when the Antelope woke up he sol
somthing white over the Buitful green
gross. He walket out side. AT night the
Antelope went to bed like the night be
for but in the morning he nerer woke
up. The Antelope was beab.

THE END.

The story may not rate highly as a creative piece—the result of the school conditions under which it was collected rather than any inability on Jason's part. It demonstrates, however, the orchestration of many language strategies including those related to spelling. The following chart may help to exemplify:

	SOUND	ARTICULATES	LOOKS	MEANS	SIMILAR SPELLING	RULES
thruw	✓	✓				✓
medow	✓	✓				
lide	✓	✓			✓	
dowen	✓	✓				
foreist	✓	✓			✓	
baryes		✓				
sed	✓	✓				
heselif		✓			✓	
doul						✓
nexst						
bay			✓			
buitful			✓			
be for	✓	✓			✓	

It is obvious that Jason relies heavily on sound/articulation strategies. They are not, however, the only strategies he uses. Nor can it be assumed that identical spellings represent the same strategies in each case. One child produced the spelling 'MOUVE' for 'movie' while another produced the same spelling for the word 'move'.

Context of situation also plays an important part in spelling as it does in other aspects of language use. Such context can be focused as narrowly as the linguistic environment in which the word occurs or as broadly as the purpose for which the child is writing and the on-going social situation. Certainly both interplay in the production of text. One young writer when writing about a letter used the word 'envelope' and immediately underneath on the next line the word 'any'. It was not surprising that she spelled 'any' as 'eny'. It is more than likely that the 'en' of 'envelope' directly affected her decision.

Just recently a teacher who had been persuaded to introduce writing journals into her second grade class abandoned them after about three weeks. She claimed that they were not successful because the children made grammatical and spelling errors that they would not make when writing for her in class. She took great pains to demonstrate how words spelled wrongly in the journals were, in fact, correct in class compositions. What she failed to see, however, was that the journal entries were more reflective of the children than the semantically sterile pieces they were writing for her. The children were also demonstrating that different purposes elicit different spelling responses or, to put it another way, spelling is not something of prime concern when you are concentrating on getting your meaning clear. In such cases you use whatever of the strategies outlined are available to you and keep going. Spelling is, therefore, functional, serving the writer's purpose at the point of utterance. Some functional spelling is conventional other non-conventional. The conventionality is not the issue during composition but rather when the composition is translated to the wider language community, i.e., when the writing is made public.

Bissex (1980) in her classic study of Paul's emergence as a writer demonstrated how a child's spelling evolved towards adult forms. Bissex supposed, however, that invented spelling represented a stage of development and this assumption has gone largely unchallenged until recently. Harste, Burke, and Woodward in their study (1981) of children's initial encounters with print suggest that far from representing stages invented spelling made use of strategies common to all language users. "From our observations of writers in this study and others we have come to see functional spelling as a strategy which all successful writers use. Seeing functional spelling as a stage which children move through on their way to conventional spelling misses the strategic importance of the strategy relative to long-term growth and development across age" (p. 75). The researchers prefer the term 'functional writing' rather than 'functional spelling' because the same case can be made for grammar as for spelling. Functional writing allows the writer to encode meaning without allowing conventions of grammar and spelling to interrupt the process.

It is fair to say that most efficient writers produce non-conventional forms. This is more likely to be true in the early stages of composing, when meaning is evolving and beginning to take on form.

It is also true relative to the purpose of writing. More formal situations may produce less non-conventional spelling than less formal situations basically because under such conditions writers pay greater attention to editing and proofing. Such forms when we catch them reveal a use of the same strategies observed in children. The non-conventional forms of proficient writers are, however, often harder to catch because they may be edited out before the writer even puts pen to paper by consulting a dictionary, a practice assiduously taught in school but disruptive of the writing process at certain points, or because the writer recognizes the non-conventional form before it is recorded. On the other hand, if it is recorded it may be immediately erased, especially if, like me, the writer uses an eraser-tipped pencil to produce the first draft. Sometimes rather than take risks with spellings writers avoid spellings they are unsure of and choose alternate words which they know they can spell.

If, however, we do catch non-conventional forms, usually in first draft situations or situations where the writer is forced by circumstances to take risks, i.e., the word is fairly specialized and there is no dictionary available, then it is possible to demonstrate that efficient writers do use the same strategies as children. Unfortunately it is not economical to show an efficient writer's non-conventional forms in context because they are usually fewer than those of children unless the writer is deemed a poor speller. The point here is that proficient writers/spellers use the same strategies, when in doubt, as do poor spellers or children. For example, consider the following non conventional forms produced by adult proficient spellers, i.e., adults who were not considered to have spelling problems:

	SOUNDS	ARTICULATES	LOOKS	MEANS	SIMILAR SPELLING	RULES
misque (miscue)	✓	✓			✓	
practicle (practical)	✓	✓			✓	
stradegy (strategy)		✓			✓	
artibrary (arbitrary)			✓		✓	

It could be argued that in sound and articulation 'misque' and 'practicle' are alternatives to their conventional forms. Such alternatives may be found in other spellings, e.g., queue and particle. Although one could argue that stradegy and strategy do not sound the same, their articulation is so close as to take a sophisticated phonetician to describe the difference. A word like tragedy attests to the acceptability of the '-degy' sequence. Artibrary represents a case where all letters are present but in a reverse order. The sequence produced is also an acceptable one—library. One could argue that there are rules also operating but this is true of almost all spelling since spelling is seldom random. In the examples above I believe the rules that are operating are explained by the categories already coded, hence I chose not to analyze them under rules.

George Bernard Shaw, noted for his vitriolic attacks on English spelling, once claimed that 'fish' could be spelled 'ghoti'. Even the spelling of the least conventional speller would challenge this view. There simply are not limitless possibilities for spelling any one word. A person's intuitive knowledge of the phonological rules of English constrains the possibilities available for spelling a word. Some children may appear to challenge this view, particularly young writers who choose a limited set of letters to placehold their meaning, e.g., 'AOX' for 'cat'. In such cases the writers are using a spelling as it means strategy and producing idiosyncratic but far from random spelling. As the writer's linguistic data base increased through successive encounters with written language, so she/he is able to make more effective use of all strategies, including spelling as it means, to orchestrate her/his decisions. As such orchestration becomes more effective the range of options for functional spelling decreases.

It would be wrong to assume that the term 'functional spelling' is simply a substitute for 'invented spelling'. This certainly is not the case since functional spelling includes in its options that which is conventional. If we define conventionality as that which is generally acceptable within a given language community, it becomes obvious that conventionality is not an absolute, as most writing instruction would lead us to believe. Not even widely used and respected dictionaries can always agree on what is convention as Emery's study of Variant Spelling in Modern American Dictionaries (1973) shows. Emery looked at spelling in five American dictionaries--the American Heritage; Webster's Collegiate and New World; the Random House; and the Standard College--and collected over 120 pages of variant spellings in these dictionaries.

As he points out in his preface, "The teacher who wishes to warn against the use of a variant is not always on safe ground when he relies upon that old standby 'preferred spelling' for reasons other than that a disputatious student might protest that the secondary spelling is the one that he happens to prefer. For one thing, the fact that a spelling is placed first is no guarantee that it is preferred; if two spellings are equally acceptable the dictionary makers have to place one before the other. Also indicated at numerous points in this book, dictionaries are not always in agreement upon which variants should be included and which of two or more forms should be placed in first position" (Preface vii-viii). Emery first produced his book in 1958. The fact that he felt fifteen years later that it required complete revision because the dictionary editions that he had originally used were out of date with regard to reflecting common practice, says much about the nature of language in general and spelling in particular. Neither is static. If they were, we would be dealing with a dead language.

Not only does convention define itself within the community at large, it also defines itself in terms of the purpose for which it is being used. Environmental print speaks eloquently to this fact. It seems perfectly acceptable that the bowling alley situation on Eubank Street should be called EU CAN BOWL or that the local quick food bar should be EZ-GO, a name that only American speakers of English would probably appreciate since 'Z' has a different pronunciation in English and Australian/New Zealand English. A supermarket chain called 'SHOP RITE' or a product called 'KWIK' offer perfectly conventional spellings within that setting. Since the language of advertising is a powerful force in the print environment of children, one must certainly reassess the notion of convention as it relates to their writing and indeed to writing in general. Today's variants may well be tomorrow's convention.

It is not only in the field of advertising that conventions vary as anyone who has read or tried to write feminist texts will know. Several spellings of the words 'woman' and 'women' occur—'womin'; 'wimin'; 'wimyn'. The only thing that you can be completely sure of is that if the person writing is worth her salt as a feminist the spelling 'woman/women' won't occur.

It is not simply a question of recognizing the convention in relation to its context, however. Should a British speller adopt American spelling conventions when writing in the U.S.? The obvious answer is that it would depend on the purpose for writing and the writer's knowledge of such conventions. Is the writer any less effective as a writer or a speller, however, if British conventions are used in an American setting? Given that the writing is intended for publication in the U.S., then whose responsibility is the spelling in these circumstances, the writer or the publication editor? For too long instructional practice has treated spelling as black and white decisions to be made by the writer. In real life it seldom works this way.

INSTRUCTIONAL IMPLICATIONS:

There are a number of instructional implications which result from the view presented here. Spelling should be viewed as functional.

It enables the writer to express meaning. It should, therefore, be a tool for writing not a barrier to the writing process. The writing environment should be one that encourages children to use those strategies used by all language users. If this is to happen children should be allowed to become risk takers. Variation must be tolerated and understood. This requires not only a change in teacher attitude but also a change in public attitudes.

Spelling should be related to the purpose of writing and to the writing process. If spelling is related to the writing process we have to ask ourselves when in the process does conventional spelling become important. It seems to me that it only becomes important when we are editing and the main purpose for editing is that we are "going public" with what we have written. So much of the writing done in schools is writing which is essentially private but which is made public through the circumstances in which it is written. Most school writing is a one off process and yet as a writer my first draft is essentially private. This is true I believe for most writers. In such circumstances it is necessary to respect the functionality of the writing process and not confuse composition with correct convention.

It is not my intention to explore purposes for writing here, but it seems imperative that children be provided with a variety of purposes for writing some of which demand editing, and, therefore, conventional spelling, and some of which are of a private nature. Conventional spelling should become an 'issue' only in relation to editing. Since it is also a fact that a writer is, in relation to conventions, his own worst editor, there is a case to be made for editing to be done by other than the writer. Even among writers few possess the high degree of editorial skills necessary when going public. How the business of editing is managed in a non-threatening and supportive way depends upon how a writing program is set up. It is obvious that some purposes for writing demand conventional spelling while others allow for variation. A clearer understanding of the demands made by specific purposes and contexts needs to be developed. This is particularly true of working in instructional settings.

At this point in time spelling instruction generally includes the memorization of lists of words unrelated very often to classroom writing tasks. Such practices appear to be counter productive in the development of writing. A major rethinking and revision of such practices is long overdue.

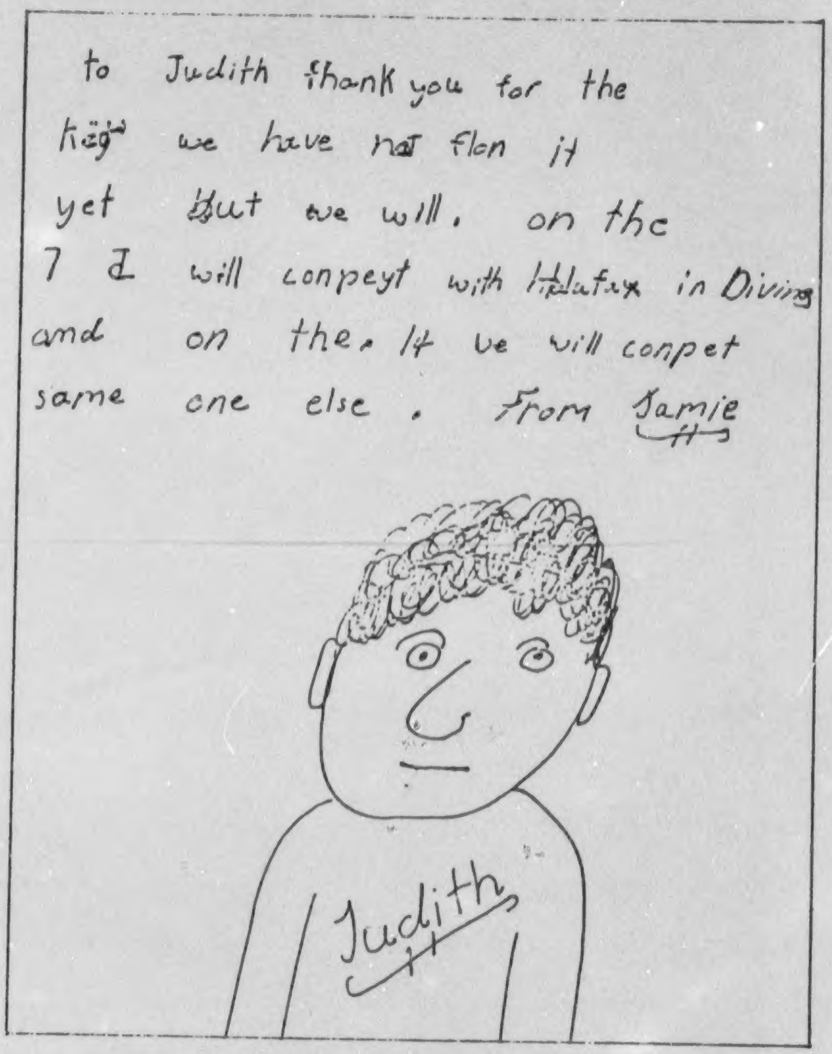
(no page 321)

4.2 TO JUDITH: A LOOK AT A CHILD'S WRITING DEVELOPMENT THROUGH HIS LETTERS

by Judith M. Newman
Dalhousie University

Jamie is a nine year-old friend of mine. Recently, I was absent from home for six months and Jamie was one of the people with whom I corresponded. I was pleased to receive his first letter, which accompanied letters from his mother and younger sister, and I answered him promptly. Although he did not reply immediately, I continued exchanging letters with the rest of the family. That other correspondence had an effect on Jamie and about two months later I received another letter from him.

I was astonished by the length and detail of this second letter compared with the first one and decided to see what I could learn about Jamie as a writer from his letters. I realized I wanted to do more than identify spelling mistakes or errors in punctuation and capitalization, say something about his handwriting, or comment on what he has yet to learn about letter writing form. By looking only at his correct use of conventions, without regard for the context in which the letters had been produced and the process by which they had been created, I was aware I would completely lose sight of Jamie as a writer. I would gain few insights into what he knew about producing written language or what he knew about the social transactions involved in letter writing. I needed, instead, to develop a sense of the complexity of the process in which Jamie was engaging as he wrote. I needed to try and understand the decisions Jamie was making as he worked out what he wanted to say and how he wanted to say it.



to Judith thank you for the
kite we have not flon it
yet but we will. on the
7 I will conpeyt with Hlafax in Diving
and on the. 14 ve will conpet
same one else. From Jamie

Judith

This letter, written toward the end of January, is a thank-you note for my Christmas gift—a kite which I had given the family. While Jamie has known me for some time, this was the first occasion he had had to write me. His caution is evident. The length of the letter tells us he didn't have much to say. The tone ("To Judith" instead of "Dear Judith") suggests there may even have been some coercion involved in his taking on the task in the first place.

However, having accepted the responsibility for writing a thank-you note, Jamie was faced with some decisions about how he would go about it. He knew he couldn't just say:

> Thank you for the kite.
> From Jamie

He had to enlarge on that somewhat. His problem arose when he found that what he had to write didn't use very much of the available space. Realizing he had to say more, he now had to consider what would constitute appropriate news to write about. It is not difficult imagining the conversation which probably took place between Jamie and his mother as he was writing:

> Jamie: I've said thank you, now what do I write?
>
> Mother: Well, you could tell her about what you've been doing at school, or you could say something about your swimming and gymnastics.
>
> Jamie: OK. I guess I'll tell her about the diving.

Telling me about his participation in a couple of up-coming diving competitions produced what looked like enough writing. Satisfied with that amount, Jamie used a time-tested ploy: he filled the remaining space with a picture. Like the rest of us, Jamie is clearly operating on the principle that letters should fill the page. He has a sense of how much writing looks like enough and a convention which allows him to complete his letter with a drawing.

Next I asked myself what were some of the specific strategies Jamie used as a writer. It is clear the most important decision Jamie makes from the outset is to write what he wants to mean. Unlike many, more cautious, writers Jamie decides to say what he wants to say whether he knows how to spell the words he wants to use or not. This decision is most fortunate since it allows us direct access to Jamie's decision making as a writer/reader.

There are several instances, for example, where we can see Jamie saying to himself "This doesn't look right!" We can see where he changed several words:

k-e-y was changed to k-i-t (for kite)
n-a-t to n-o-t
d-u-t to b-u-t
s-u-m-e to s-o-m-e

These changes are direct evidence of the interplay between what Jamie knows about written language from being a reader and what he knows about spelling. They let us see the considerable extent to which Jamie's visual memory influences his spelling decisions. His spelling of f-l-o-n (flown) and H-a-l-a-f-a-x (Halifax), shows his awarenss of sound/symbol relationships. The changes he makes in NOT and SOME show he knows what those words look like. His initial spelling for BUT is a hold-over from earlier years when he was unsure about how b's and d's were written. His change indicates he is now able to self-correct. (Note that he made the appropriate initial decisions for DIVING, AND, and JUDITH.)

Jamie's changing the spelling of c-o-n-p-e-y-t (compete) to c-o-n-p-e-t later in the letter is particularly interesting. Dissatisfied with his first attempt (which was based on a spelling generalization: spell /e/ - ey as in money or honey), Jamie tries spelling the word another way which is closer to how he remembers that word looking. His trying an alternate spelling at some later point in the letter demonstrates how the constant revision or updating of knowledge comes about through the use of written language itself. Jamie is in effect saying, "I'm not sure about that word. I'll try it a different way this time." What is important is he doesn't let his uncertainty about how to spell something stop the flow of meaning.

Jamie makes other changes as well. The H, written over h, in Halifax shows Jamie's awareness of some rules for capitalization. (Again, note his use of capital letters for the names of persons: Judith, Jamie.) He also uses periods in a somewhat unconventional way; he uses them to mark a topic shift rather than to signal a sentence ending.

We see two other interesting changes in this letter.

7 I will conpeyt

the underlying the is an example of the writer's head getting ahead of his hand. Jamie had figured out what he was going to say before his hand had caught up with his thoughts. Because he was writing with a pen, he chose to write over this anticipation.

the , 14 we

The informs us that Jamie paused to make a decision. Jamie's pen was on the paper waiting to write while he was trying either to recall the date of the diving meet or to decide whether he wanted to write FOURTEENTH or 14. His 7 and 14 for seventh and fourteenth, by the way, are examples of his choosing to use an alternate communication system.

Even in such a short writing sample we begin to sense the complex orchestration required to produce any written document. Jamie's determination to place meaning ahead of convention is important for him as a developing writer. His commitment to meaning allows him to explore written language freely, to make whatever decisions he deems appropriate for maintaining communication. His commitment to meaning is equally important for us as kid watchers. His slips of the pen, his over-writing, his use of functional spelling all provide opportunities for us to observe some of the strategies Jamie has developed for generating written discourse.

We learn a great deal about Jamie as a written language user from this letter. We see he has learned that letters have several components: salutation, body, closing. We find Jamie being a risk-taker with language, not unnecessarily concerned about neatness and accuracy, willing to invent spellings and other conventions in order to say what he wants to say. We are also able to see how knowledge about written language, developed by reading, is used as Jamie writes--evidence of the important and intimate relationship between reading and writing.

Let's turn, now, to Jamie's second letter keeping in mind what we have observed so far.

Several differences are immediately apparent in this second letter. The most striking difference, of course, is the increased

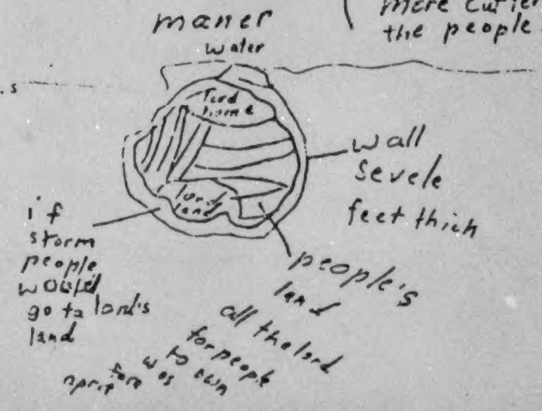
1

march 10

Dear Jodith I have a ratin Hiet. I am elgit to milk prodises, peanut's, egg whits, suya, and beef. and suger. If I eat them I get sik like and lose my temper. And I em sudying on the middle age's. It is net and fun.

I know alot adout the middle ages. if there is say 10 manersi and lord's. there is a berin and to awn's that

2 and a king to an that the king own. did you know that the romen charth owned hafe ave yorap? thay where powfral people that is a lot of land to own. (the lord home was not eny more cufter bull the peoples homes)


maner
water
lord home
wall
Sevele
feet thick
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go to lord's
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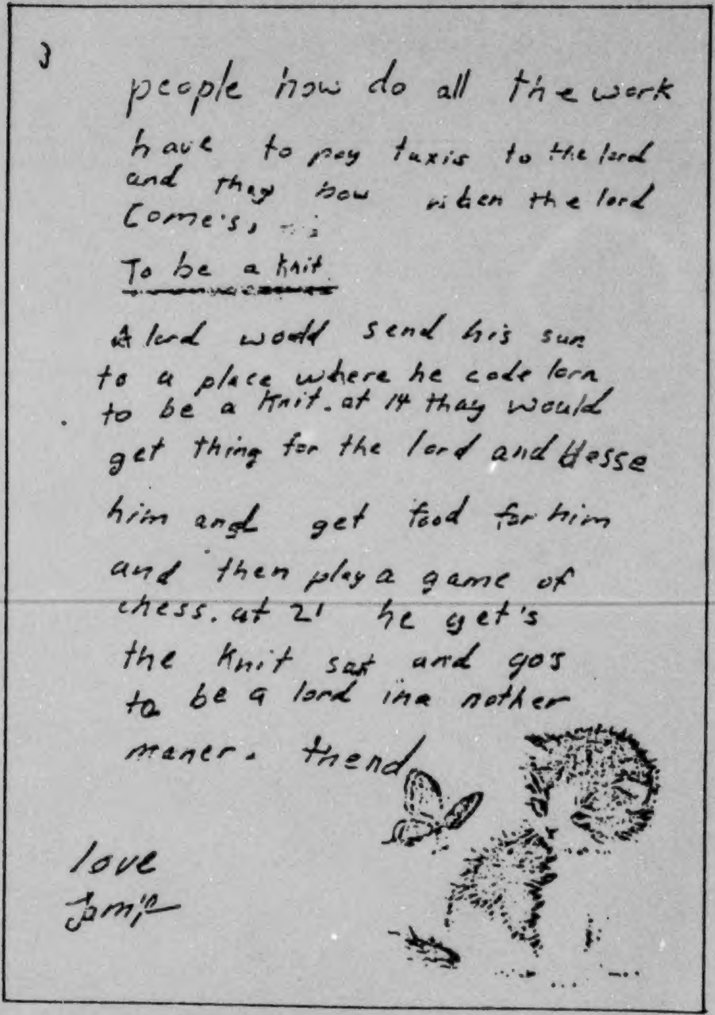


3

people how do all the work
have to pay taxis to the lord
and thay bow when the lord
Come's, ~~

To be a knit

A lord wodd send his sun
to a place where he code lorn
to be a knit. at 14 thay would
get thing for the lord and dresse
him and get food for him
and then play a game of
chess. at 21 he get's
the knit sat and gos
to be a lord ina nother
maner. thend

love
Jamie

length; Jamie has a lot to say this time. He gets very involved explaining two things which currently interest him: his "rotin" (rotten) diet and what he's been learning in school about the middle ages. Notice, in fact, that his discussion of the middle ages takes on the character of a school report with an underlined heading (To be a Knit) as well as a final "Thend."

Jamie has little difficulty describing his diet and its effects on his behaviour. He does, however, run into trouble when he begins writing about the middle ages. He has so much to say and he can't get it down quickly enough. I had some difficulty reading his description of land ownership:

WHAT HE WROTE:	TRANSLATION:
If there is say 10 maners and lord's. There is a berin and to own's that and a king to and that the king own.	Suppose there are ten manors. Each manor is owned by a lord. There are barons and a king, too, who owns land.

Having begun with a rush we see Jamie settling into his topic, informing us "the romen church owned hafe ave yorap (the Roman church owned half of Europe").

Next Jamie decides to diagram a typical manor. He titled his drawing and provided explanatory notes. His decision to shift from writing to drawing allowed him to describe more easily, and in greater detail, what he understands about land use. His comparison between the living conditions of the lord and his peasants (the lord's home wasn't any more comfortable than the people's homes) is clearly an afterthought; he has placed this information between the writing and drawing and enclosed it in parentheses. At this point, Jamie has become so involved in sharing what he knows he chooses to write a third page.

Why, we might ask, has Jamie decided to write such a lengthy exposition? It is obvious that his diet is important and he is interested in what he's currently learning at school, but there are other subtle influences operating as well. For example, Jamie's mother and I had been corresponding about his diet. In my last letter to her I had expressed interest in Jamie's reactions to having his choice of foods so severely limited. She had shared that part of her letter with him. Jamie actually begins his letter by answering a question I had asked his mother.

Furthermore, in the time between Jamie's first and second letters, I had exchanged two letters with Jamie's younger sister, Jillian. Her first letter, a single page, had included a story. In my reply, I had complimented her on it. Needless to say, in her next letter, three pages in length, she had included another story. Again I responded enthusiastically; I also enclosed a small gift. Jamie's letter is influenced to some extent by my correspondence with Jillian. She was getting letters because she was writing to me; he wasn't. She also received a small present, he hadn't.

As Jillian and her mother were writing once more Jamie decided to get into the act himself. I learned later that he had come into the dining room, where the other two were working, watched for a few moments, asked for some paper, then disappeared for about a half an hour. When he returned he handed his letter to his mother to send with hers.

We can imagine Jamie saying to himself as he starting writing:

> Hmmm, Judith wants to know about my diet. OK, I'll tell her about that. Hmmm, Jillian got some stickers when she told Judith about losing hers. Judith also likes long letters (she writes three pages to Jillian). What can I write about? I'll bet she'd be interested in what I know about the middle ages.

Hence: "Dear Judith . . . love Jamie" and his report-like tone.

I did in fact respond to his letter as Jamie had predicted I might. I had seen a kit for making a model of a medieval village in a bookstore. I didn't send it to Jamie though; I sent it to his mother for the family to work on. Nevertheless, when the present arrived, Jamie commented, "I'll bet she meant that for me but she didn't have have anything for Jillian!" So much for adult subtlety. Jamie had watched my correspondence with the others, figured out how I would probably respond to a serious effort if he chose to make it. He decided to test his theory with this lengthy letter—to my knowledge the longest document he had ever written.

Not let's look briefly at Jamie's decision making in the process of writing. Again, his functional spelling, overwriting, crossing out, slips of the pen, etc., help us understand how he handles the writing process. Once more, we notice Jamie placing meaning ahead of convention both in terms of punctuation and spelling, yet his knowledge of both is considerable. Whereas we might have concluded from his first letter that Jamie needed to be taught about beginning sentences with capital letters, in this letter he uses that convention. He even corrects himself twice:

my temper. And I em

A lord would send his sun

(When he gets involved in his topic he drops the capital letters although he retains the periods.)

Jamie is also experimenting with apostrophes:

peanut's
get's
middle age's
lord's
come's
people's

It would seem that he has only recently become aware of this particular punctuation mark and is still unsure of its application. He uses apostrophes with plurals, third person singular verbs as well as to show possession; wherever he had a final "s".

Again, we see Jamie deciding "this spelling doesn't look right": D-a- becomes DEAR, r-s- becomes ROTIN, b-i-e-t becomes DIET, a-v-e becomes OF. We notice him overwriting some letters: k-n-o-w, o-w-n, forming them more legibly. He combines words in his haste to get his ideas down: a-n-g is corrected to AND GET; t-h-e-n-d wasn't noticed.

Jamie's spelling strategies continue to reveal the intimate relationship between reading and writing. There is evidence of his knowledge of sound/symbol relationships as well as his knowledge of how words look. We can see him solving the problem some words present by deciding to spell them the way he spells other words: c-u-f-t-e-r-b-u-l-l (comfortable); t-a-x-i-s (taxes); w-h-e-r-e (were); s-u-n (son). We have evidence of his knowledge of spelling generalizations: s-u-g-e-r (sugar); m-a-n-e-r-s (manors); n-e-e-t (neat); e-n-e-y (any). We see him deciding to place hold meaning with some vague approximation for a word he knows he's never thought about before: e-l-g-i-t (allergic); p-r-o-d-i-s-e (products); s-w-t (sword). While a quick reading of his letter may leave the impression that Jamie's spelling is highly unconventional, of the 221 running words he has written here, 78% have been spelled conventionally.

What do we learn about the writing process from Jamie's second letter? First, we observe the importance of the writer's willingness to take risks. While Jamie had been a risk-taker in his first letter, committed to saying what he wanted to say, he had written very little. Not until he had received a reply and observed my correspondence with Jillian and his mother did Jamie really decide to be a writer himself. Jamie had learned that letters to friends are first-draft affairs; neatness and accuracy are not obligatory. Consequently, he shows little hesitation on this occasion selecting a topic, organizing what he wants to say, and writing about it.

Jamie's second letter confirms the necessary interplay of reading and writing. Jamie makes many more decisions where we see what he knows as a reader influencing what he decides as a writer. His spelling decisions, organizational and formatting decisions, and self-corrections are all affected by his previous reading experiences. We become aware of the continuous interaction of the decisions he makes as a writer and the decisions made as a reader both in the process of putting the marks on the page and as he reflects on what he's written.

Jamie also provides us with an opportunity to see that learning is not linear. His letters demonstrate, in fact, that learning occurs on several fronts at the same time. The co-ordinating of ideas, use of formatting conventions, and attention to audience must all be considered on every writing occasion. It is not possible to master one aspect of the process before tackling a second; learning to write involves evolution on many fronts at once. The writer is constantly involved in experimenting. Jamie's use of apostrophes is an example of just such experimentation. Whether his awareness of this punctuation mark has come from reading, from something the teacher said, or from watching the other kids write, Jamie has chosen to experiment with it here. He has some of the features of its use worked out: an "'" is often followed by an "s". In the process of experimenting he naturally uses "'s" correctly; but his experimentation leads to errors as well. Those errors are important; they allow us to observe how a learner's knowledge is continuously refined by experience.

Jamie provides other evidence that learning is not linear as well. We see that writers don't always use everything they know when they write. Jamie demonstrates his knowledge of how to use capital letters and periods to begin and end sentences, but as he becomes more involved in drafting the letter he frequently omits the capitals. Jamie also knows a great deal about conventional spelling (he corrects m-e-l-k to MILK: o-n-d to OWNED: w-o-o-d to WOULD; w-e-n to WHEN; a-v-e to OF), but in his concern for getting his meaning on paper he often chooses to spell functionally. Although writers may know about certain conventions there is no guarantee they will use them all the time. The reasons for writing, knowledge of audience, confidence of the writer, and the flow of ideas all affect whether a particular convention will be used or not.

The most important thing we learned from Jamie's second letter is the complexity of the context which affects a writer's decisions.

Our notion that the writing context can be determined from what is written in a teacher's lesson plan is clearly erroneous. The influences which operate either to expand or constrain a writer's options extend far beyond the narrow situation of a writing lesson in school. A child's decisions as a writer are affected by a multitude of factors many of which only become apparent after the child has written. In the case of Jamie's second letter that context included what was going on at school which interested him, his diet and the effect it was having on his life, what he had been reading, what he was able to observe about the social transactions involved in letter writing from other correspondences, and what he was learning directly from what I had chosen to write him in my reply to his first letter. All of these factors affected what Jamie said and how he said it.

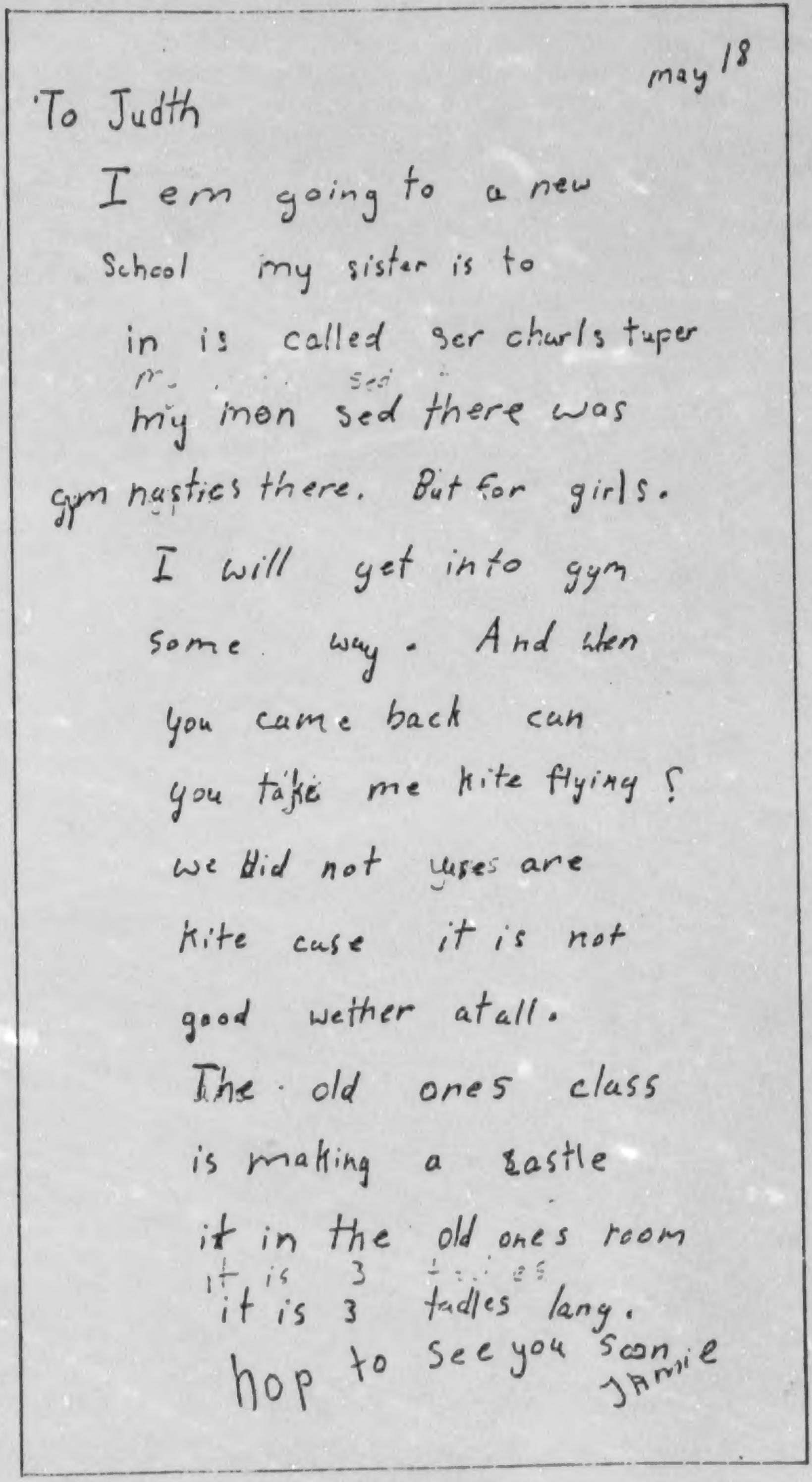
As teachers, then, we need to look beyond neatness and accuracy when examining children's writing. We need to become sensitive to the experimenting that is going on each time a child writes. We need to understand what children's "mistakes" reveal about their knowledge of the writing process. Kenneth Goodman (see Gollasch, 1981a, 1981b) has referred to those "mistakes" as "windows into the process"; they provide opportunitites for insights into the kinds of sophisticated decisions children are capable of making.

We also need to understand that knowledge about writing comes from many sources: from reading, from watching others write, and from writing itself. The curricular implications are straightforward. The only way we can help children become fluent writers is by letting them write—for many different purposes, on topics of their own choosing, and for audiences of their own.

As we have seen with Jamie, letter writing is a particularly useful vehicle for facilitating children's writing development. Letters to friends, teachers, older students, and family are informal, legitimate first-draft writing where the focus is on meaning, not on convention and form. Letters provide opportunities to experiment with writing where the cost of being wrong is low. Letters provide their own feedback; they invite replies from those who have received them. Letter writing is highly contagious. A message board, to which notes can be pinned, is quickly covered with letters the children write to one another. A section of blackboard reserved for reminders is soon filled with notices. There is no need for a child to ask "What should I write about?" when writing to an older or younger student in the school who's become a penpal; there is lots to share. A personal reminder from the teacher to a child, tucked into a lunchbox or pocket, is sure to prompt a reply. A young friend of mind, for example, has to take pills with each meal. Not long ago, the teacher was sending the pill container home to be refilled. She had enclosed a note saying her supply was low. The box was returned to school with a reply from the child himself on top of the pills.

The most useful thing about letters as a vehicle for helping children develop as writers is that they circumvent our compulsion as teachers to correct everything in sight. Who ever heard of returning a letter to its sender with the mistakes circled in red? Letters are to be answered; they highlight the importance of meaning. Maintaining that focus on meaning, more than anything else, is crucial for becoming a writer.

P.S. I received a third letter from Jamie shortly before I returned home. Once more the complex decision-making required of a writer is evident. We are able to see how the continuous evolution of a writer's control over the process is facilitated by the process of writing itself.



may 18

To Judth

I em going to a new
School my sister is to
in is called ser charls tuper
m sed
my mon sed there was
gym nastics there. But for girls.
I will get into gym
some way. And when
you came back can
you take me kite flying?
we did not yuses are
kite cuse it is not
good wether atall.
The old ones class
is making a castle
it in the old ones room
it is 3
it is 3 tadles lang.
hop to see you soon
Jamie

4.3 THE EVOLUTION OF REGISTER: LETTER WRITING OVER TIME

by Nanci R. Vargus
Ball State University

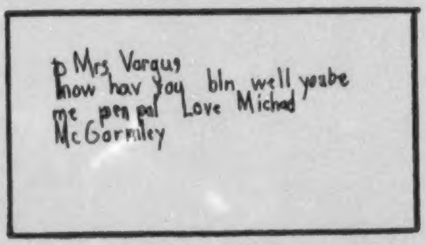
Twenty four first graders and I corresponded weekly for a semester. Although many interesting changes occurred in their letters, this paper focuses on the evolution of register. A few children's letters will demonstrate the complex orchestration of language cue systems and strategies through an examination of field, mode and tenor. Additional statistical verification, based on the entire class's responses, will be included to show the pervasiveness of this evolution.

REGISTER: A USEFUL THEORETICAL CONSTRUCT

Halliday and Hasan (1980) use the concept of register to explain the flexibility and social sensitivity of language users. All language users possess a range of ways to express themselves; what we choose from this linguistic repertoire is determined by pragmatic or social considerations. For example, not only do we communicate differently with a clergyman than a garbage man, but we typically talk about different things and treat one with more social deference than the other. Halliday and Hasan categorize these components of register as field, mode and tenor. Field refers to that which is being communicated, that is, the subject matter or topic. Mode is the communication channel; generally this category highlights the medium, i.e., written or oral, but also allows for finer distinctions, such as televised sermon, friendly letter, journal article. Tenor represents the social relationship of the language users. The strength of this model of language is its ability to intertwine text and context and to integrate the ideational, interpersonal and textual aspects of communication.

Generally Halliday and Hasan's model has been used to analyze individual speech acts or written documents. Retaining the context of the situation allowed researchers to document the potency and interaction of the literary context and the product and process of communication. Such an application, however valuable, tends to overlook the dynamic properties of register. Some socio-linguists, such as Cicourel (1974), are more interested in the development of registers. Their theoretical concerns focus on ongoing process, continual re-alignment of relationships, increasing social and personal sensitivity, and emergent transaction. This paper will use Halliday and Hasan's somewhat static constructs to analyze children's letters in order to illustrate the transactive nature of communication. Even within a relatively constant setting (i.e., child to adult, friendly letters, first grade activity), field, mode and tenor evolve over time.

MICHAEL'S LETTERS: AN EXPLICATION OF FIELD, MODE AND TENOR



to Mrs Vargus
how hav you bln well yoabe
me pen pal Love Michael
McGormley

to Mrs. Vargus

How have you been?
Will you be my pen pal?

Love Michael McGormley

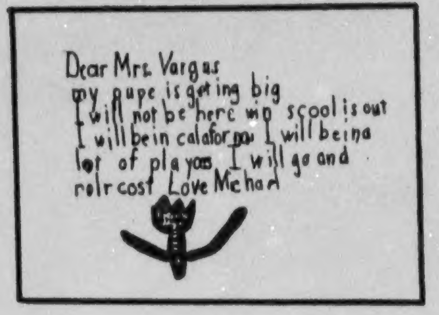
Michael's first letter

SYNTACTIC AND WORD-LEVEL CHANGES OVER TIME

A SUMMARY CHART OF CLASS MEANS, F SCORES AND SIGNIFICANCE LEVELS

PIECE OF LANGUAGE BEING QUANTIFIED	TIME OF LETTER First	Fifth	Last	MULTI F SCORE	SIGNIFICANCE
Syntactic variation score (Based on the number of phrases, clauses and non-NVN sentence patterns.)	1.7	2.8	5.2		
Graphophonemic quantity score (Based on the number of words in the message of the letter.)	12.9	20.7	37.5	7.491	.003
Graphophonemic spelling score (Based on the number of unconventionally spelled words in the message of the letter.)	1.8	3.2	6.8	7.491	.003

TABLE 3



Dear Mrs. Vargus
my pupe is get ing big
I will not be here wio scool is out
I will be in calafornau I will be in a
lot of playos I will go and
rolr cost Love Mchar

Dear Mrs. Vargus,

My puppy is getting big.
I will not be here when
school is out. I will be
in California. I will be
in a lot of places. I will
go on a roller coaster.

Love
Michael

Michael's last letter

Michael's two letters share the same mode; that is, they are both friendly letters. The tenor does not change drastically although the last letter has a friendlier tone, a less formal signature, and a more original message. The relationship appears more personal although the receiver retains her super-ordinate position as expressed through the continued use of the honorific title, Mrs. The shift in tenor is most clearly illustrated by Michael's dropping of his last name; such a decision reflects how he sees himself vis à vis Mrs. Vargus and also how he thinks she views him. The relationship is more informal, more intimate, more primary role oriented. He no longer must give the first grade equivalent of "name, rank and serial number."

This change to closing with just a first name rather than a full name occurred with many children. The following table shows the frequency. Almost four-fifths of the children used their last name in the first letter. Slightly more than four-fifths used only their first name in the last letter. McNemar test of significance yield a p $\leq$ .000.

The final component of register, field, also shows some interesting changes over time. The subject matter of Michael's initial

CHANGES IN TENOR AS REFLECTED IN SIGNATURE:

PERCENTAGE OF CHILDREN CHOOSING EACH OPTION

TYPE OF SIGNATURE	TIME OF LETTER First	 Last
First name	20.8%***	87.5%***
First and last names	79.2%***	8.3%***
	100.0%	95.8%*

*** $p \leq 0.000$ on a one-tailed McNemar Test

* One child did not sign her name

TABLE 1

letter is other-directed. The two sources for his message are a frequently used friendly letter opening and the closing sentence of the oversized group letter from the researcher which began this on-going correspondence. Michael combined what he knew about letters from out-of-school experiences with what he saw demonstrated during school hours.

By his last letter, Michael is sharing information which he finds interesting and he trusts the receiver will enjoy. He has generated the semantic content; that is, he no longer relies entirely on phrases or topics which originated with other people. His message no longer looks like that of another first grader. It's unique and could only have been written by Michael.

Michael, like the other first graders, gradually accepted responsibility for creating content. In order to quantify this shift in topic responsibility, the children's messages were categorized as "maintained," "expanded," and/or "generated." Operationally, maintained meant (1) the child wrote about a topic introduced by the researcher (e.g., in the first letter, writing letters is such a topic), (2) the child used phrases which were displayed in the room (e.g., in the first letter setting, a new bulletin board proclaimed, Happy St. Patrick's Day), or (3) the child relied on conventional phrases which are a part of letter-writing amenities (e.g., how are you, I like you). Expanded content referred to a reliance on a topic which was previously introduced by the child, researcher, and/or immediate environment but highlights the child's extension of that topic. The third field option was to generate content basing semantic choices on a desire to communicate information not previously shared. Michael's letters illustrate how these categories were applied. Because he limited himself to a question that often is included in friendly letters and to a sentence which was visually available (my letter was tacked to the front board), Michael's first letter was labelled "maintained." His last letter, however, was classified as "expanded" and "generated" content. The information about his puppy supplemented and enriched my previous knowledge about this new addition to his home, consequently the "expanded" categorization. The information about his trip to California resulted in a "generated" rating due to the fact that neither he nor I had previously written about vacation plans. Multiple classifications frequently occurred.

FIELD OPTIONS: MAINTAINED, EXPANDED, GENERATED TOPICS:
PERCENTAGE OF CHILDREN'S LETTERS IN EACH CATEGORY OVER TIME

	TIME OF LETTERS		
FIELD OPTION	First	Fifth	Last
Maintained topic	95.8%***	58.3%***	37.5%***
Expanded topic	45.8%	50.0%	20.8%
Generated topic	0.0%***	54.2%***	83.3%***

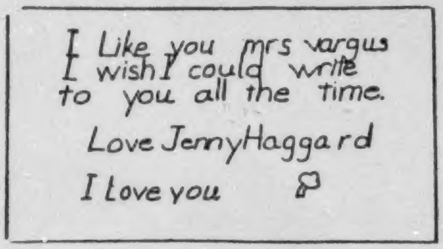
*** $p \leq 0.000$ on a Cochran Q test for statistically significant changes over time within each field option.

Note: Given the possibility of multiple response within each instance of time, the totals for each letter are greater than 100%.

TABLE 2

The above table shows children drastically changing their semantic orientation from maintaining previously introduced topics to generating new information ($p \leq 0.000$). Such a change represents a willingness to take semantic risks, to trust themselves for content origination, and to assume the receiver cares.

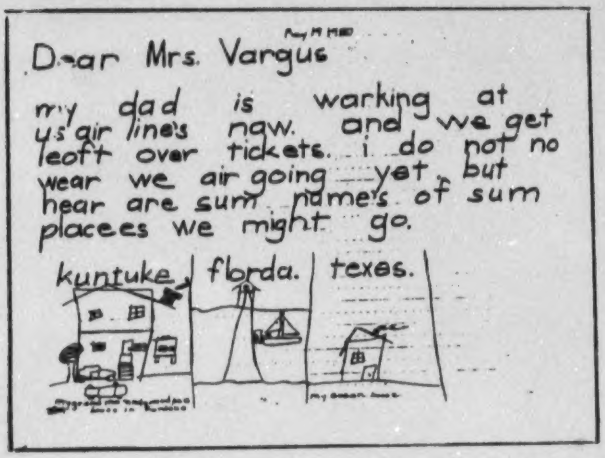
JENNY'S LETTERS: THE EVOLUTION OF REGISTER AND RISKTAKING



I Like you mrs vargus
I wish I could write
to you all the time.
Love JennyHaggard
I Love you

I Like you Mrs. Vargus.
I wish I could write to
you all the time.
Love Jenny Haggard
I Love you

Jenny's first letter



Dear Mrs. Vargus
my dad is warking at
us air line's naw. and we get
leoft over tickets. i do not no
wear we air going yet. but
hear are sum name's of sum
placees we might go.

kuntuke.
florda.
texes.

May 19, 1980

Dear Mrs. Vargus,
My dad is working at US Airlines now. And we get left over tickets. I do not know where we are going yet, but here are some names os some places we might go.

Kentucky	Florida	Texas
my grandma and grandpa's house in Kentucky		my cousin's house

Jenny's last letter

Michael's letters and the accompanying tables on signature choice and topic options illustrated the usefulness of Halliday and Hasan's constructs for highlighting changes which occurred over time. This section deals with the role of risktaking as manifested in Jenny's letters. Jenny's letters not only reflect the changes mentioned previously; that is, she goes from maintained to generated content and she drops her surname in her signature, but her letters are a means by which these observed changes can be understood.

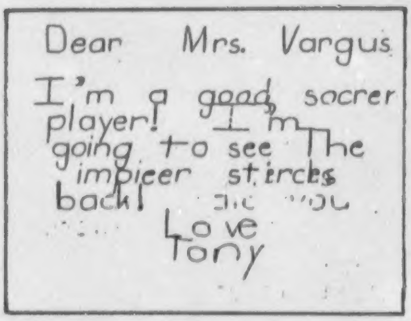
Previous articles in this volume have described, illustrated and documented four universal strategies, i.e., negotiability, risk taking, textual intent, and fine tuning language with language. As Harste, Burke and Woodward (1981) demonstrate, these strategies do not operate in isolation or within only one language cue system. Whether reading, writing, speaking or listening, language users orchestrate a complex process. Jenny's letters provide concrete examples of how her notions of appropriate risks allow her to explore language more fully over time.

Jenny, like most of the other first graders, initially chose "safe," previously mentioned, socially acceptable topics; she concentrated her efforts on producing a product that looked as conventional as possible. Her topic choice becomes more uniquely hers as time progresses. Not only does she move from maintaining, to expanding, to generating topics, she also increases the amount of syntactic variation. Her willingness to take risks is reflected as well on a graphophonemic level in longer entries and more functional spelling. Her syntactic variation score went from 2 to 8; her letter length increased from 18 to 47; the number of functional spellings changed from 0 to 15. As Jenny's letters demonstrate, risk taking is an orchestrated event. Language users manifest their willingness to test hypotheses, to experiment with language, to explore ways to mean across all language cue systems simultaneously and interactively.

Table 3 summarizes what Jenny and her classmates did syntactically and graphophonemically over time. Analysis of variance shows all the changes to be statistically significant at a p level of .01 or less. Jenny's scores show a greater change than average; for instance, her last scores are 8 (vs. $\overline{5}$) for syntax, 47 (vs. $\overline{37.5}$) for words, and 15 (vs. $\overline{6.8}$) for spelling. Her willingness to explore language in so many ways allows her to increase her fluency as a written language user. Her growth and development reflect the risks she assumed. It appears that only after (1) she seemed convinced that she did not need to produce perfect products to be accepted, (2) she realized that school-type constraints for conventional control were not paramount, and (3) she acknowledged that written language could be meaningful and purposeful, did she fully free herself to learn language, learn through language, and learn about language. The risks involved in letter writing evolved from primarily social risks (e.g., is this acceptable) to cognitive risks (e.g., how do I placehold meaning). For Jenny and most of her classmates, it took time to develop a relationship with sufficient trust that they could write what they wanted to mean rather than what they could control.

Michael's first letter which had only social amenities and Jenny's initial attempt which emphasized her eagerness to develop a relationship vividly portray young children's sensitivity to social rules and their desire to be liked. Many adults have to wait until they are past the legal voting age to learn, via Dale Carnegie or Dr. Crane or Norman Vincent Peale, that one of the most effective ways to begin a social relationship is to show an interest in the other person and/or to find something positive to say about her or him. The first graders' rather bland messages superbly signed, "Let's begin!" Now it was my responsibility, as the other language user, to respond to their intention and to provide the social support necessary for them to flower as people through written language. For this particular classroom of children, my demonstrations of personal acceptance and message transmission were exceptionally important because they had not had any school sponsored opportunities to create their own documents and they were accustomed to being evaluated on how closely their products adhered to some predetermined standard.

Even though all children followed the patterns previously described, some had relatively small changes over time. Tony and Cindy D. were the two who were the least consistent in their willingness to communicate with words. Ironically, when the children were interviewed to see whom they ranked as very good writers, Cindy D.'s and Tony's names came up the most often. Both children had beautiful penmanship and were among the seven children on the A Honor Roll. Their teacher described them as academic and sociometric stars who tended to get everything "right"; she was amazed that they wrote shorter and often less interesting letters than many of their classmates.



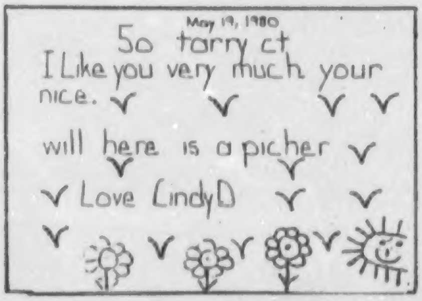
Dear Mrs. Vargus

I'm a good socrer
player! I'm
going to see The
impieer stircks
back!
Love
Tony

Dear Mrs. Vargus,

I'm a good soccer
player! I'm going
to see the Empire Strikes
Back!
Love
Tony

Tony's last letter



May 19, 1980
5o tarry ct
I Like you very much your
nice.
will here is a picher
Love CindyD

May 19, 1980
50 Tarry Ct.

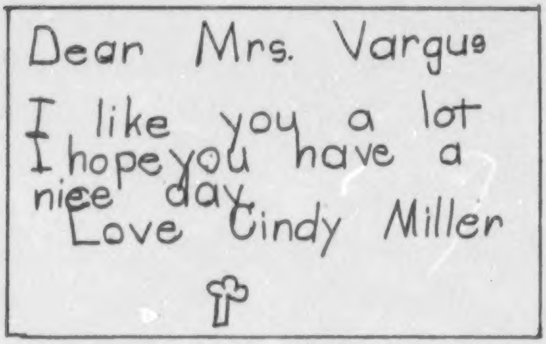
I like you very much. You're
nice. Well here is a picture.

Love Cindy D.

Cindy D.'s last letter

Their last letters are reproduced above to show their written language proficiency. They were proficient by May; they also were proficient in February when this experience began. But their hesitancy to use written language to develop a personal relationship and their apparent inability to take risks, seemed to inhibit their growth as writers. The following section illustrates the potential for growth within this context of literacy.

CINDY'S LETTERS: EVOLUTION OF REGISTER AND TEXTUAL INTENT



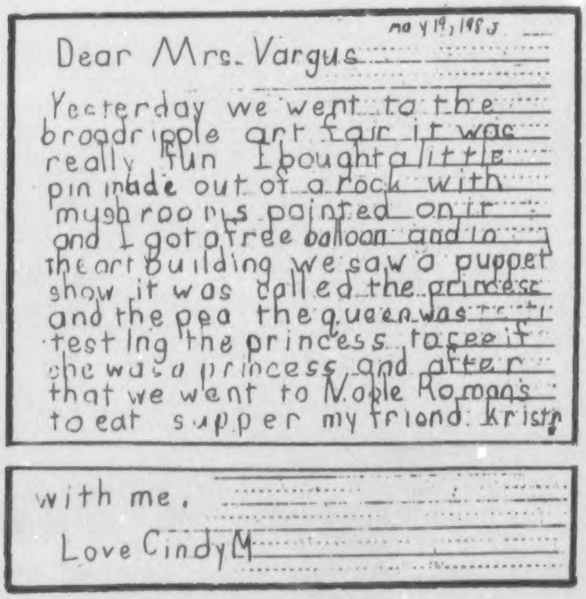
Dear Mrs. Vargus
I like you a lot
I hope you have a
nice day
Love Cindy Miller

Cindy's first letter

Dear Mrs. Vargus,

I like you a lot.
I hope you have a nice day.

Love, Cindy Miller



may 19, 1980

Dear Mrs. Vargus
Yesterday we went to the
broadripple art fair it was
really fun I bought a little
pin made out of a rock with
mushrooms painted on it
and I got a free balloon and in
the art building we saw a puppet
show it was called the princess
and the pea the queen was
testing the princess to see if
she was a princess and after
that we went to Noble Roman's
to eat supper my friend krist

with me.
Love Cindy M

Cindy's last letter

May 19, 1980

Dear Mrs. Vargus,

Yesterday we went to the Broadripple Art Fair. It was really fun. I bought a little pin made out of a rock with mushrooms painted on it; and I got a free balloon. And in the art building we saw a puppet show. It was called the Princess and the Pea. The queen was testing the princess to see if she was a princess. And after that we went to Noble Roman's to eat supper. My friend, Kristen, (went) with me.

Love,
Cindy M.

Unlike Cindy D. and Tony, Cindy M. actively explored ways to mean with written language throughout this experience. Her initial and final letters represent conventional control atypical of her classmates. However, writing only what she could represent conventionally was not her aim. Her second through eighth letters became increasingly longer, more expansive, and syntactically more complex. In addition, her spelling miscues increased before they decreased; her control over conventional ending punctuation did not increase during the semester. Indeed, during the middle letters she even omitted the period which usually ended her message. Cindy's most obvious growth came at a semantic level; she wrote coherent, cohesive, well-developed and interesting letters. Her explanation of her family's trip to the art fair provided pertinent details on what she did. For instance, the pin she purchased is described so thoroughly that a reader has no problem picturing it. Likewise, the puppet show becomes real through her ability to share relevant information (i.e., title, plot summary). By focusing on what she wants to share with the receiver, Cindy manifests fluency one does not expect from a first grader and would not have predicted given her initial polite letter.

One reason that Cindy can demonstrate such proficient use of written language is implicit in the notion of textual intent. Textual intent is a strategy on which all language users rely in any meaningful situation. Indeed, only through a desire to mean, a willingness to create, an ability to chunk parts into something greater than the individual segments, does communication occur. That is to say, only when language users assume the responsibility for meaning and intend to create a "text," i.e., a chunk which is designed to sign meaning, does language function as a cognitive and communicative device. Cindy assumed this major responsibility in an atmosphere which encouraged text ownership. Because she no longer had to "fill in the blanks" of a text someone else created, she had room to experiment with written language, to grow and develop as a writer.

Cindy's semantic growth was quantified by evaluating the amount of expansion within topics on a scale from 0 (for none) to 5 (for a great deal). Her first letter rated a 1 (i.e., a little expansion); her last letter was a 5. The following chart summarizes what these first graders did on the first, fifth, and last letters in terms of expansion and other more traditional discourse analysis measurements.

In all cases, regardless of the type of measurement this group of children showed statistically significant changes over time ($p \leq 0.0$). Harste (1980) once defined textual intent as the process "to mean via a text; a text is characterized by contextual appropriateness, unity and orchestrated cue complexes to sign meaning." Although this glimpse of Cindy and her classmates focuses on semantic intent and its manifestation in the documents the children created, such a narrow definition circumvents a richer understanding of the process. The following conclusion attempts to tie the various strands together.

CONCLUSION: THE EVOLUTION OF REGISTER

This group of first graders was socially cautious and conventional when we began to exchange letters. The tenor was formal; their

SEMANTIC CHANGES OVER TIME:

A SUMMARY CHART OF CLASS MEANS, F SCORES AND SIGNIFICANCE LEVELS

SEMANTIC MEASURE	TIME OF LETTER			F SCORE	SIGNIFICANCE
	First	Fifth	Last		
Expansion score* (Based on a range of a low of 0 to a high of 5.)	1.6	2.6	3.3	23.463	.0000
Number of propositions* (Includes both mainline and supporting propositions.)	2.8	6.2	7.5	12.802	.0002
Number of t-units* (Based on a Kellogg Hunt procedure.)	2.1	3.4	4.8	6.653	.005

*All measurements have an inter-rater reliability coefficient of .90 or higher

TABLE 4

topics were limited as they wrote their initial friendly letter to me. Even though the physical setting, social actors and stated purpose remained relatively constant during this period of correspondence, many pragmatic, semantic, syntactic and graphophonemic changes occurred. These changes were reflected in the tenor and field of their letters. As the children redefined the social rules concerning this particular on-going transaction, their orchestration of the other cue systems changed in quantitatively and qualitatively different ways. When, like Jenny, they decided that exploring ways to mean was more appropriate than controlling writing conventions, they took cognitive risks that promoted their growth and development as written language users.

As children redefined what was contextually appropriate, as they experimented with ways to sign meaning, they simultaneously developed their potential as writers. Such as open-ended experience allows Michael, Jenny, and Cindy to create texts consistent with their level of proficiency. It provides a supportive environment for experimentation, for hypothesis testing, for meaning.

One important consideration, however, is the role of time. Register is not static; it evolves; it grows and changes. Its dynamic transactive properties can only be observed through longitudinal studies. Indeed, it is only with time that both the literary and human potential of written language communication can flourish.

4.4 REREADING: WHAT'S IN IT FOR THE READER?

by David Whitin
Indiana University

> Young children who read the same book twenty times, even though they know the words by heart, are not avoiding more 'challenging' material in order to avoid learning; they are still learning . . . Children will not stay in any situation in which there is nothing for them to learn. (Smith, 1978)

My first grade son Brett, age 7, had read the same stories over and over to me and I was convinced that he was still learning. I decided to tape record his readings for several months to see if I could gain an insight into this learning. All the stories he read during this time came from the Sounds of Language series co-authored by Bill Martin, Jr. and Peggy Brogan. The stories and poems in these books had been read and recited to him during his first six years. These were the stories that he knew the best and these were the ones that he would first learn to read.

During his reading to me, Brett demonstrated some of what he was learning. He was looking at his reading as a writer, curious about the spelling of the word "like." He was building confidence in himself as a reader. He was also setting new challenges for himself, such as relying more and more on nonvisual information. He showed he could use graphophonemic cues to predict what might be happening in the story and also to confirm what he already knew was going to happen. Brett also demonstrated that he was a reader who had conscious control of several other reading strategies: (1) making sense; (2) deleting words; (3) having a sense of the story schema; (4) being sensitive to the reading context; and (5) being aware of the print format.

FINE TUNING READING AND WRITING

Let us look at his third recorded reading of Three Little Dachsunds (2/11/82) to see some of this learning that was taking place. The last lines of the story are read without a miscue: "'Bow-wow-wow' say three little dachsunds. 'We like surprises, and we like home.'"

Brett: There should be one more "l" there for "like."

Dad: There should be one more "l" there for "like"?

Brett: Yeah, for "like," because "like" does have two "l's."

Dad: Where do you think the other "l" should go?

Brett: Right behind the other "l."

Dad: How do you know that?

Brett: Because we have "like" in our books (at school) and it has two "l's."

In none of his previous readings had Brett ever mentioned the word "like" and its appropriate spelling. However, if one looks at his writing during this time, he had obviously been experimenting much earlier with its spelling.

Date	Spelling
1-31-82	LIKT (liked)
2-14-82	LLIKT (liked)
2-21-82	LLIKT (liked)
3-7-82	LLIK (like)
3-14-82	LLIKT (liked)
3-29-82	LIKT (liked)

For some people the above example would illustrate a negative correlation between reading and writing. These people would argue that Brett's misspellings in his writing were now confusing him in his reading. The goal of language instruction, they would contend, is the proper use of convention, and his confusion over "like" ought to be remedied quickly by an observant teacher brandishing a red pencil. However, from another theoretical perspective Brett is learning about language. The only way he can learn about how language works is to use it. Just like a scientist, he is conducting an experiment about the word "like." As Yetta Goodman writes:

> They [the children] will not always be right in their discoveries but they will be in good company. Scientists have always made mistakes and learned a great deal from them: in fact, in the scientific world, mistake making is expected. Scientists generally hypothesize something and expect that, when they test their own hypotheses, they may often go astray. If scientists were sure that their hypotheses were always right, they would not even bother experimenting in the first place. Why work on problems when you already know the answers? (Goodman, Y., 1980)

Mistakes are a source of information. If Brett only ventured into language territory that was known and secure, he would never grow as a language user.

Notice too that it is Brett who is conducting this experiment. It was he who decided which hypothesis to test. Brett clearly owns this hypothesis and has invested much energy in working out this tentative prediction. Ownership gives him responsibility for his decisions about language and implies literacy development from the inside out. A look at his spelling of "like" over time demonstrates that his hypothesis is, by its very nature, tentative. Brett's hypothesis about "like" also points to the close relationship between reading and writing. What he reads and what he writes fine tune each other in a positive way. His reading and his writing are both supplying information that is pertinent to his hypothesis.

USING NONVISUAL INFORMATION

Another value for rereading stories is that Brett learned to use as little visual information as possible. On February 18 he read *Three Little Dachsunds* and commented at the end, "I read it as fast as I could." He was feeling quite confident about his reading ability as he started to read the next selection, *One, Two, Three, Four*. By the time he reached "the eighth month of the year" he started to look up at the ceiling and continue to read. After he finished that page I interrupted him: "Wait, you're not looking at the book. You have to look at the book!" But Brett giggled a happy reply of, "No I don't!" When he had finished his reading he commented proudly, "I didn't look at almost all of those words."

Dad: But I thought you have to see the words to read.

Brett: No, I don't.

Dad: How do you do that?

Brett: I just think in my head.

Dad: How do you know when to turn the page?

Brett: Because I know when I say, "And he followed me home," and then I turn the page, because I know that's the last sentence. There's a period . . . there's a period . . . there's a period . . . [he points to the periods that are the last marks on several pages].

By hearing and reading that story over and over again Brett was decreasing his dependency on visual information and increasing his store of nonvisual information. He was learning that he could profitably shift this ratio of visual/nonvisual information and still have his reading make sense. He was turning out the lights on himself, knowing full well that his nonvisual information would not go away. He recognized this comforting permanency of nonvisual information on another occasion. On March 8 as he read One, Two, Three, Four for the fourth time, he started out by turning his eyes away from the text. When I asked him, "How do you know that's what it says?" he replied with a chuckle, "Same thing as yesterday!" What a keen insight for a young reader to make: the nonvisual information you used yesterday will be with you today and tomorrow.

Setting New Challenges

To those that would argue that Brett does not learn anything by rereading stories, here is clear evidence that he does. By relying on less visual information, Brett is becoming a more fluent reader. As he occasionally looks down on the page he is skimming to find what he needs. Brett is not bored with rereading this story but, on the contrary, is so interested that he is setting new challenges for himself. In fact he is setting a challenge far more difficult than any imaginative adult could have created. "It may not be until they know just about every word in a book that they can get on with some of the more complex aspects of reading, such as testing hypotheses about meaning and learning to use as little visual information as possible" (Smith, 1978). By hearing him read to me over and over again, I too was helping Brett grow as a reader. My presence enabled him to try out a new challenge, to rely less on visual information. He was stretching himself as a language user, going beyond where he had been as he increased this nonvisual/visual ratio of information. The new emerging capability was creating for him, what Vygotsky called, a zone of proximal development. It occurred because he was interacting with me and would later become part of his independent developmental achievement (Vygotsky, 1978).

It is also important to note that it is Brett who is making Brett a fluent reader. No one else can do that. Fluency cannot be taught. By attending to those parts of the text that contain only the information he needs, he is learning to read faster and to rely on minimum visual clues. Fluency comes through reading a lot. "Children learn about reading as long as they read, but they can never learn to read by not reading" (Smith, 1978). Fluency is largely a matter of experience. The more Brett reads, and indeed the more he rereads, the more fluent a reader he will become.

Building Confidence as a Reader

After Brett had read One, Two, Three, Four by turning his eyes away from the page, he next started to read a poem that had frustrated him just five days earlier, Round Is a Pancake. Let us look at his two previous readings of this poem. The most difficult phrase for him was "Round is my grandpa." On February 9 he read "Round is my grandfather" and then paused for nine seconds before reading on. On February 13 he read "Round is my grand- . . . great" and this conversation ensued:

Brett: I can't read. I don't want to read it.

Dad: What makes sense there?

Brett: I don't know! (in an irritated voice . . . then a long pause) . . . I can't do that, Daddy!

Dad: Well, skip that part and read the rest.

Brett: Can't we wrestle instead?

He refused to read any further. Now on February 18, after proudly reading One, Two, Three, Four with few visual clues, he turned to Round Is a Pancake and read: "Round is my grand . . . father" for Round is my grandpa. Here again there was a long pause but he did continue on. He felt the word still wasn't "grandfather" but he also knew what he read made sense, so he went on. "Grandpa" is not a familiar word for Brett; he is used to saying "Poppy," "Grandad" and "grandfather" when talking about that particular grandparent. As we look at the next three readings of this poem, Brett read "grandfather" in a less hesitant, more assured manner. Never again did he refuse to read this poem, even though he continued to make the same miscue. Why? I think part of the answer lies in the confidence that Brett had gained as a reader who was learning to use less and less visual information. For this poem he become less concerned with the "exact" word and more concerned with what made sense. This is the mark of a fluent reader. Brett could never have gained this fluency if he had not viewed himself as a competent reader.

Using Phonics to Confirm

Brett is also gaining an important insight about phonics as he rereads. Brett is now using phonics to confirm what he already knows; it becomes one of the many strategies to orchestrate meaning and does not assume a superordinate position.

> Rather, the use of phonic rules takes a supplementary and subordinate place in normal, meaningful reading, occurring so rarely and effortlessly that the reader is not usually aware of the strategies employed . . . Phonic rules function almost as a sentinel: they cannot decipher unknown words on their own, but they will protest the reader against making impossible hypotheses. (Smith, 1978)

None of the miscues Brett made in One, Two, Three, Four are "impossible hypotheses." His corrected and uncorrected miscues make sense. Look at his selected miscues for animals in Table 1. The animals that Brett uses in his miscues do appear in the story, with the exception of hens. All his miscues are syntactically and semantically acceptable. The large illustrations that accompany the text provide an important form of redundancy. In fact, on February 18, as Brett made this miscue:

Table 1. Selected Miscues from One, Two, Three, Four

Date	Text	Miscue
2/1/82	chickens	hens
	squirrels	chipmunks
	ducks	swans
	chipmunks	chikmunks
2/11/82	ducks	sw-
2/18/82	kittens	kittens
	chickens	tur
	ducks	swans
	chipmunks	1. s, 2. squirrels
2/21/82	chickens	hens
	chipmunks	squirrels
3/8/82	blue jays	1. blu, 2. blue, 3. bluejay
	ducks	swans

"I found four speckled chickens," he turned to me and commented, "those look like turkeys to me!" The illustrations provide an additional cue, helping to make Brett's confirmations more appropriate. By rereading these stories Brett is learning to use phonics as a strategy that helps him confirm what he knew was coming. It is through this rereading that Brett gives himself his own phonics lessons and learns to use this strategy in an orchestrated, rather than isolated, fashion. As Frank Smith aptly remarks, "Children master phonics as a result of learning to read rather than as a prerequisite for reading" (Smith, 1978).

Other Key Strategies

After having observed Brett reread these stories, I then gave him another predictable story that was unfamiliar to him and asked him to read it aloud. What reading strategies would he employ with this new material? Let us see.

I handed Brett It Didn't Frighten Me (Goss & Harste, 1981). He turned to the first page and within two seconds responded, "I can't read this, Dad." Yet no sooner than these words escaped his lips he was looking at the words and mumbling to himself (when I heard all this mumbling I realized that what he eventually reads aloud are not his first miscues). In a sense Brett is pretending his way to literacy; so long as he can deny he can do it, then he can start running some risks and making sense of the text. When he reached the third line of the text with the phrase "right after Mom turned off the light" he had some difficulty. Different reading strategies evolved during the conversation that followed:

Brett: That doesn't say, "Richard after Mom." Oh, I can't read this.

Dad: You're doing fine.

Brett: I don't want to do it. It's a hard one.

Dad: Just keep going and do the best you can.

Brett: "Richard after Mom turned"--that doesn't make sense. I don't want to read it. I'm tired, Daddy.

Dad: Just keep going and do the best you can.

Brett: It doesn't make sense.

Dad: Do the best you can.

Brett: (a long pause) . . . "Richard after Mom turned off the light" doesn't make sense. Two people can't turn off the light.

Dad: Keep going.

Brett: (a long pause) . . . "One pitch, black, very dark night, ringed off Mom turned off the light"--it doesn't make sense.

Dad: Keep reading and I think it will make sense when you finish the story.

Brett: You couldn't take that away. (he points to the word "right"). Can I do it over?

Dad: Sure.

Brett: "One pitch black, very dark night, right after Mom turned off the light . . . "

What this conversation illustrates is the importance of reading on. First Brett read "Richard after Mom," using the initial word segment of "right" to make his prediction. Here he uses graphophonemic cues as part of a predicting strategy. He then reads "Richard after Mom turned," and then "Richard after Mom turned off the light." Each time he was reading more and more text; each time he was willing to tolerate this "nonsense" a little bit longer. The longer he tolerated it and the more he read ahead, the more information he received from the text. He now knows that two people can't turn off the light and so abandons "Richard" in favor of "Mom." This conversation also demonstrates that Brett has conscious control of two other important reading strategies: making sense of the story and deleting words that do not make sense. He realizes that if he omits "right" the text will make more sense. As soon as he employs that strategy he is able to self-correct all his miscues.

There are other observations to make about this first reading. Brett makes more omissions later on in the story than he does at the beginning. As Brett became more familiar with the repetitive nature of the story, he became less tied down to every word. This repetition encouraged him to read ahead, causing omissions but increasing fluency. It is these omissions that indicate that Brett is relying more and more on nonvisual information. He is already attending less to the repetition, as evidenced by the omissions "up in my tree" and "out of my window only to see" and more to the variations within this structure, namely who is the next inhabitant of the treetop.

There are many long pauses in this first reading. As Brett paused, he would look to the picture on the facing page to gain additional information. This miscue "rhinosaur" is a good example of how Brett used this picture (he had commented, "What do you call those?") along with minimum phonetic clues and information about animals to orchestrate this new word. Since the horns in the picture are very similar to those of a stegosaurus or a styrocosaurus, two dinosaurs that Brett has heard about, his response is quite appropriate. He thereby extends control of his reading by drawing upon his present world knowledge. Brett had also encountered a pink dinosaur earlier in the story. He reasoned that if there was one ancient lizard up in treetops, there just might be two.

Two weeks later Brett read this same story to me. After he read the page with the pink dinosaur he began to turn his eyes away from the page. I was not surprised, for even in his first reading he was relying less and less on visual information as he read further along. At this point in his second reading I interrupted him:

Dad: What are you doing?

Brett: I'm not looking.

Dad: The words are right here (pointing to the book).

Brett: But I can look up here (pointing to the ceiling) and the words are up there.

Dad: I don't see them.

Brett: You don't? There must be something wrong with your eyesight!

Brett is obviously enjoying the opportunity to turn his eyes from the page. He would often take a peek to see who was the next visitor in the trees, but then would turn away again. At the conclusion of this second reading I asked him more about his new reading strategy:

Dad: Why do you look up at the ceiling?

Brett: It's fun. I just know "One pitch, black, very dark night" and the rest of it.

Dad: Do you ever look at the ceiling when you read at school?

Brett: No! You're supposed to look at all the words. Mrs. May doesn't like that!

Dad: Does looking away help you in any way?

Brett: It helps me tell my stories better. Tell 'em and not read 'em.

Dad: How would you tell someone else how to do this trick of yours?

Brett: Remember. Just remember.

By increasing his store of nonvisual information Brett realizes he can tell his story better. This is his term for story schema. Even though he turns his eyes from the page, he knows how the parts of that story fit together. Brett is also aware that different reading strategies are appropriate for different contexts. He pays more attention to the words at school than at home. Thus, the miscues that Brett makes as a reader are greatly influenced by where he reads, to whom he reads, how many encounters he has had with that text. Being conscious of the fact that he employs different reading strategies depending on the context is a keen insight for a young reader. Words are the main consideration at school but a sense of story is the main focus at home.

A week later Brett demonstrated another reading strategy when he encountered some small print in What Is Big: "A grasshopper is bigger than a ladybug.

"A ladybug

is
the
smallest
thing
I
know."

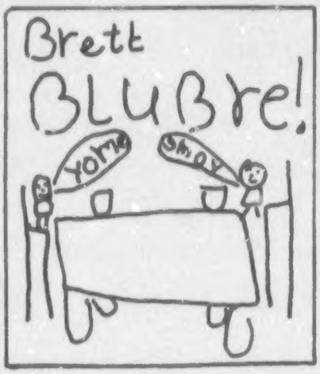
After reading the word "ladybug" he ignored the small print and turned the page. When he saw a new story on that page, he turned back and read the small words.

Dad:	Why did you turn the page at first and not read those small words?
Brett:	I thought that was just about the author. It was so small.
Dad:	Why did you think that?
Brett:	Because usually author words are small. I'll show you (he flips back to One, Two, Three, Four to show me the small print of the author beneath the title).
Dad:	How did you know these words weren't author words?
Brett:	Because I read, "That's the biggest thing I know," and then I have "Is the smallest thing I know," so I just did it.

He is learning about the uses of small print and demonstrating quite a knowledge of print formating. Knowing where certain information resides in the text is an important reading strategy. Authors' names are indeed written smaller than the rest of the text. Reading only "ladybug" didn't make sense so Brett returned to self-correct his miscue. In this instance small print was not confusing him, but was providing him with another opportunity to test out an hypothesis about how language works.

Variations with print expand the meaning potential of language. Such an idea is not a new one for Brett, since he has always experimented with this potential in his writing. Some words are written large to express a holiday wish and are included within a piece of art. On another occasion he drew a person shouting the order "must cross river" and he very carefully wrote that command backwards, since that was the order in which the words came out of his mouth. At another time Brett drew himself and his brother enjoying blueberry pie, with one saying "yummy" frontwards and the other saying it backwards (see Figure 2). Brett is not suffering from dyslexia or some other "visual perception" problem as some might imagine. Instead he is testing again the full range of potential meanings that exist in print variations. If he is experimenting with this print potential in his own writing, it is only natural for him to see an equal amount of inventiveness in his own reading materials.

Figure 2. Uninterrupted Writing--Brett (Age 7)



His Current Reading Model

Brett shows conscious control of several reading strategies. First, he knows reading must make sense. Secondly, when it doesn't make sense, he will either read on or delete some words. Third, he knows that his knowledge of the story grammar helps him to tell his story better. His fourth strategy is an awareness of print formatting and where certain information resides in the text. Brett also employs a fifth strategy of pragmatics, realizing that the context of a situation influences the strategies he decides to employ.

After seeing the growth that Brett demonstrated as a reader, one might be tempted to view any rereading as a profitable experience. This would be a false and misleading conclusion. Rereading is worthwhile only when it is initiated by the child. For the parent or the teacher to decide what material will be reread would be to rob the child of his ownership in this language experience. No matter how well intentioned the adult might be when he/she sets the focus, the child is stripped of his responsibility as a reader. Now he is reading for the adult, not for himself. What motivation is there for a child to set new challenges and stretch himself as a language user if he doesn't want to read that story in the first place? Rereading was a profitable experience for Brett because he decided which stories to reread and how often he would reread them. The control was his--and there it must remain.

4.5 THE LINGUISTIC HOUSE THAT JACK BUILT

by Phyllis Whitin
Indiana University

While playing make-believe, Brett, age 5, told Chris, age 3, he had to "die a terrible death."

David, age 6, suddenly inquired at the dinner table, "What does 'bleak' mean?"

Rebecca, 26 months, arranged Legos in dishes, muttering, "Mark it with a 'B'; put it in the oven for Baby and me!"

Often adults hearing something a child says and remark, "Now where did s/he get that idea?" In these examples we know: from literature.

This paper investigates the part literature can play in the language data pool (Harste, Burke, Woodward, 1981). These children heard stories read aloud, they chanted and recited poems, acted out stories and played transformational games with pieces of language from literature. Most of the following stories occurred in a natural home setting in a free-play situation. We, the adults, are observers, trying to get a peephole into the child's mind. I have chosen to present four ways that young language users expand upon their exposure to children's literature. These are: using a learned phrase in a new context of situation, transforming and personalizing a language pattern, investigating semantics, and reading as a private act.

USING A LEARNED PHRASE IN A NEW CONTEXT

A great number of the children's literature-related statements fall roughly into a category of a learned phrase tried out in a new context. In the above story, Brett had been intrigued by the line, "They came with valiant dreams and hearts full of fire, but the thorns, like angry hands, held them fast and the young men remained caught in them and could not free themselves, and so they died a terrible death" (Hyman, 1977). Brett had received the book for his fourth birthday, and had heard it repeatedly. Now he and Chris were playing on the small home teeter-totter, taking turns falling off and feigning injury or death. Brett drew upon the dramatic phrase to make the game all the more vivid. Was this book too "difficult to comprehend" for a 5-year old child? We must examine more closely what we mean by "comprehending." Brett clearly demonstrated his comprehension by his action. Brett's personal experience with Sleeping Beauty enabled him to approach a play situation in a new, creative way. He as an individual was changed by his involvement with the story. Another child or adult would have been involved in a different way. With Brett, as with any language user, text is a personal event (Rosenblatt, 1978). I am not implying that all Brett's exposure was to such sophisticated literature, or even that only elevated language could make him grow. The important point here is that he was exposed to a variety of literature.

Just a few months earlier Brett used nursery rhymes and poems so often read to fit a new situation. At the lunch table he announced, grinning broadly, "Well, I licked that platter clean!"

Brett also drew upon the following favorite:

If all the seas were one sea
What a great sea that would be!
And if all the trees were one tree,
What a great tree that would be!

And if all the axes were one ax,
What a great ax that would be!
And if all the men were one man,
What a great man he would be!
And if the great man took the great ax,
And cut down the great tree,
And let it fall into the great sea,
What a splish splash that would be!

I was upstairs staining a closet door. As I rose, I knocked over the gallon container. Stain poured on the floor, seeped through the cracks in the floor, onto the beams, kitchen table, and new slat floor below. I began mopping wildly, calling for my husband to save what he could downstairs. Brett stood a few feet away from his father and quietly remarked, "What a splish splash that would be!"

The opening story of Rebecca and the Legos ("Mark it with a 'B' . . .") is another example of a language phrase used in a new context. Here Rebecca is using a rhyme provided by an adult in a play situation to "digest" a language pattern. It is this adult contribution that enables her to reach out beyond herself, setting new limits in her growth as a language user. This is a crucial step in her development of abstract thought. Now Rebecca is using the verse as a set of rules for her imaginary play, subordinating herself to her self-set boundaries. Here is imaginary action which is defined by her memory of the poem. She has set up a situation that enables her to practice forming real-life plans. Her play thus extends her conceptual abilities (Vygotsky, 1978).

TRANSFORMING A LANGUAGE PATTERN

At other times children focus on syntactical structure. They transform a language pattern from a familiar story into their very own structural innovation. In such settings young language users go beyond quoting a sentence or phrase in a new context. They act upon the underlying syntax of the piece of language, stripping away the original meaning, and rebuilding it with their personal meaning.

When Tom Thumb is in the stomach of the cow (Martin, 1972), he calls out, "No more hay, please! There's enough down here!" After many readings children love to join in on the phrase. After having heard the story repeatedly since infancy, Chris, age 3.6, entered the house one surprisingly cold November morning crying, "No more cold please! There's enough down here!"

Rebecca, age 2.6, loved The Three Billy Goats Gruff (Martin, 1972). It was family tradition to "trip, trap, trip, trap" over any bridge, balance beam, etc. Washing her hands for lunch one day, Rebecca noticed the water dripping. Mimicking our intonation from The Three Billy Goats Gruff, she canted, "Drip, drop, drip, drop."

A few months later, at 3, Rebecca was helping to unpack the week's groceries. Suddenly she reached into the bag, calling "Hot dog, hot dog, where have you been?" a structure she saw demonstrated in "Pussycat, pussycat, where have you been?" (Martin, 1972).

David, 6, chose another poem from the family repertoire to transform Henry Wadsworth Longfellow's poem "The Arrow and the Song." As he played with a makeshift bow and arrow in his favorite pine tree he declared with obvious pomp, "I shot an arrow from the tree. It fell to earth I know not where."

The Little Engine that Could (Piper, 1961) is a well-read story in our house. The train carried intriguing cargo: ". . . jackknives, picture puzzles, books . . . big golden oranges, red-cheeked apples, bottles of creamy milk . . ." but the Big Strong Engine boasted it carried ". . . big machines [that] print books and newspapers for grown-ups to read!" In December, Brett, age 4, played Santa and the elf. He collected a pile of toys for his game; then began paralleling his stored linguistic structure: ". . . jackknives, apples, milk . . ." and, as he reached for the toy telephone: ". . . telephones for grownups to use . . ."

These transformations are more than "cute." These children are showing us they recognize the unique melody of written language structure. By manipulating bits of written language on their own timetables, they are internalizing the relationships between oral conventions and written ones. In each instance they select a focus, but only after having been given the full complexity of literature from which to choose.

INVESTIGATING PATTERNS

A third aspect of language which children spontaneously investigate is semantics. They focus on the meaning of individual words; usually by asking an adult for the definition.

We had read Stuart Little (White, 1945) to Brett when he was 3, again at 4, and once more at 5.6. Here is a vivid scene from that book which must have intrigued Brett:

> Under him, over him, on all four sides of him--garbage. Just an enormous world of garbage and trash and smell. It was a messy spot to be in. He had egg on his trousers, butter in his cap, gravy on his shirt, orange pulp in his ear, and banana peel wrapped around his waist.

About a week after we finished the book for the third time, Brett made a "junkpile" with his sister. Suddenly he announced: "I have orange pulp in my ear." The remark faded into the on-going play, but that evening he brought up the subject directly to me. "I'd like to act out Stuart," he told me. "My orange superball could be orange pulp. What _is_ orange pulp?"

This latest language discovery intrigued him. Presented with a whole, Brett selected a small part to learn about. His known vocabulary included "orange section" or "orange juice" but not "orange pulp." He decided he was ready for more information.

Rebecca, at age 2.6, chose to explore the idea of multiple meanings. We regularly read and acted out _Caps for Sale_ (Martin, 1970). A favorite line was the peddler's call: "Caps! Caps for sale! Fifty cents a cap!" One day as Rebecca matched a collection of lids to their corresponding jars, she suddenly called out, "Caps for sale! Fifty cents a cap!" She selected a jar cap from the pile and held it up for all to see.

David's question, "What does 'bleak' mean?" came out of the blue one evening: We had recited the poem "Antonio" by Laura E. Richards for months. A few lines: "Oh nonio, Antonio / You're far too bleak and bonio: And my only wish / For you singular fish / Is that you would soon be gonio." How long David had contemplated the line before he asked his question we don't know. Interestingly, he didn't ask about "bonio" or "gonio"; he obviously understood those words were poetic variations of words he knew.

When Chris was 3.6, he brought over a collection of fairy tales to our house. "You have to read this one!" he exclaimed. "We read it last night!"

His selection was "The Glass Hill" (Asbjörnsen & Moe, 1970), a tale complete with knights, princesses, and magic coats of mail. Chris was entranced. After we read it, Chris begged Rebecca, 2.6, to act out the story with him. He sat on the rocking horse, "I am the knight; you are the princess." Jumping down from the horse, Chris dashed to the coat rack to retrieve his jacket. "This is my coat of mail," he announced. Rebecca parroted dutifully that yes, that was his "coat of mail" for a portion of the play. After a few references, however, the term deteriorated to "jacket" for Rebecca, although Chris consistently called it proudly "my coat of mail."

This is a significant language story. In it we see how Chris made the story his on his own terms, taking ownership of the text and his own learning (Harste, Burke, Woodward, 1981). Chris had "lived through" the story in the aesthetic sense (Rosenblatt, 1978). He responded to the poetry of the story language; his reaction to phrasing and melody was combined with his reaction to the story line. Rebecca, on the other hand, did not respond in this same aesthetic way. Her response is different, on her own terms. While their ages were different, each abstracted out of this experience those demonstrations for which they were ready.

One might surmise that "vocabulary" can only truly be learned from an aesthetic experience. Word lists obviously present drawbacks, yet even "vocabulary in context" lacks a vital component for true learning. A language learner must experience a word, "live through" its setting. When Brett, age 4.6, asks "What does 'died down to a whisper' mean?" (Hyman, 1977) while eating dinner, he is mulling over a cognitive-emotive experience--and he has learned.

READING AS A PRIVATE ACT

The following set of observations illustrates how widely varied responses can be drawn from a common literary experience: "What is Pink?" by Christina G. Rossetti (in Martin, 1970). Our family has read, recited, and transformed this poem a multitude of times. The poem reads:

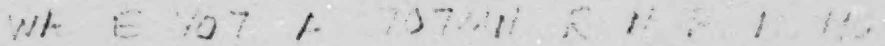
What is pink? A rose is pink by the fountain's brink.
What is red? A poppy's red in its barley bed.
What is white? A swan is white sailing in the light.
What is blue? The sky is blue where the clouds float thro'.
What is yellow? Pears are yellow, rich and ripe and mellow.
What is green? The grass is green with small flowers between.
What is violet? Clouds are violet in the summer twilight.
What is orange? Why an orange, just an orange!

Brett, 5, had been writing stories with invented spelling for three months when he decided to write "poems." He knew "What is Pink?" by heart, had recited it alone, with a partner as a call-response, and had transformed lines from it orally ("What is pink? Mom's earring's pink"). In his early experience writing he often had trouble remembering what he had written, but when writing a poem he already knew, this trouble was alleviated. Always knowing what he was going to say, he could attend to other aspects of the written word. Halfway down the page Brett stopped and said, "There are a lot of 'whats'." He saw the poem in a new way when he wrote it down. His eye was seeing and his hand was feeling the repetition of the sound he'd heard so long. Sometimes in writing Brett did lose his place and repeat letters, but he completed the poem in two sittings. The insert below compares the original poem to Brett's written poem and his reading of his writing:

A Sample Portion of Original Poem:

What is yellow? Pears are yellow, rich and ripe and mellow.

A Sample Portion of Brett's Writing and Reading of His Poem:



"What is yellow a lemon rich and ripe and mellow."

Interestingly, Brett risks transforming "pear" to "lemon." His linguistic store provides him a comfort zone (Harste, Burke, Woodward, 1981) from which he sets off to orchestrate and discover more of written language.

A few weeks later David, age 6.6, also began to write a poetry book. He worked for several nights recording poems, including, of course, "What is Pink?"

One evening David called, "Dad, how do you spell what, 'W-H-A-T'?"

"Yes, that's right."

"It looks like 'WAT'" he said.

By writing down the words he had the opportunity to define for himself sound/symbol relationships in the English language. In reading what he had written, David orchestrates this knowledge with visual information he already possessed. By shifting stances from writer to reader, David had discovered a vehicle by which he can 'triangulate' his knowing (Harste, Burke, Woodward, this volume).

Six weeks later Rebecca, age 2.6, who could also chant many of the lines of the poem, hunted for wild strawberries with me. I found one and exclaimed brightly, "This one's ripe!" Rebecca's quick reply, "Rich and ripe!"

A month passed. Rebecca rode in the backpack as her brothers and I walked the half mile to the beach. As we walked, I entertained the boys with a story, oblivious to Rebecca. When I mentioned a man who was "very rich," I heard a little voice pipe up, "Was he mellow?"

Remarkable as these stories are, we come to a sobering thought. Experience came first: experience with the full complexity of good literature. Perhaps Brett at 4.6 expressed it most poignantly. A young friend brought a typical controlled vocabulary book intended for beginning readers to our house. After hearing it once Brett declared, "I don't like that one. It sounds like a schoolbook." Language can be so much more.

Significantly, these language stories demonstrate that reading is its own experience, and that our experiencers during reading alter, affect and enrich the experiences we have with our world. This discovery counters the notion that whole world experiences must precede reading experiences if these are to be valuable. That the psycholinguistic and sociolinguistic benefits of literacy are being experienced as children read, or have read to them, books, and later, more richly explore and enjoy their world, is, it seems to me, what written language literacy is all about.

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5.0 TAXONOMIES: STORY COMPOSITION IN READING AND WRITING

Included in this section are the taxonomies we developed for studying the surface texts children created during story dictation, reading, and rereading. The communication decision and propositional analysis procedures described in these taxonomies were also used to study children's written stories and letters. The taxonomy we used to study children's reading of environmental print is included in our earlier volume (Harste, Burke, Woodward, 1981).

Various graduate students at our institution have extended, refined, and improved our taxonomic work. Margaret Atwell (1981) refined our local and global cohesive mapping procedures in a study of proficient and less proficient adult writers. Linda Crafton (1981) refined and extended the taxonomic categories dealing with meaning maintenance and meaning generation within and across language events in a study of 4th grade and 11th grade students reading related concept materials. Stephen Kucer (1982) developed a reader-based as opposed to text-based procedure for studying text coherence. His work solves many of the problems we see with our current semantic mapping procedures. Karen Feathers (in process) has developed a procedure for studying the cohesive harmony of a surface text using the propositional text base. Nanci Vargus (1982) has developed and refined procedures for mapping changes in register as a function of involvement over time. Chrystine Bouffler (in process) has refined and extended our taxonomies for studying psycholinguistic and sociolinguistic strategies in spelling. Katherine Busch (in process) is developing a taxonomy for studying semantic negotiations in writing using stories written by 2nd and 4th grade students. Jetta Tarr (in process) is mapping children's expectancies for print in a variety of situational contexts in an attempt to better understand the anticipatory schema children bring with them to reading and writing. Marjorie Siegel (in process) is studying the psycholinguistic and sociolinguistic processes involved in reading comprehension in classrooms using a semiotic perspective as the basis for organizing her ethnographic observations. Mary Hill, who used her and our work to develop a theoretically based instructional program for parents (1980), is currently developing procedures for mapping the social interactions and transactions involved in child-to-child literacy learning settings. Heidie Mills (1980), Karen Feathers (1982), and others whose work is in progress, have attempted to adapt and modify some of these analysis procedures for use by teachers wishing to implement a process approach to reading and writing.

We developed our taxonomies as heuristic devices to explore our and our informants' thinking. We share these taxonomies in hopes that they serve a similar function for the reader, and reference our students' work should others wish to continue explorations in these areas.

5.1.1 TAXONOMY: LANGUAGE EXPERIENCE STORY - DICTATION

1.0 WRITER COMMUNICATION DECISION

Describes the relationship between the researcher's request to dictate a story and the child's choice of communication response.

.1 Attempts to Invalidate Contract
.2 Pseudo-Engagement
.3 Negotiates Communication Contract
.4 Renegotiates Contractual Agreement (From 1.6 to 1.1, 1.2, 1.3)
.5 Mixed Communication Decision (From 1.1, 1.2, or 1.3 to 1.6)
.6 Maintains Communication Contract

2.0 ENGAGEMENT (Code when Cl is .5 or .6)

Describes the conditions leading to the child's participation in contract.

.1 Freely Engages in Contract
.2 Engages With Prompting

3.0 OBJECT SELECTION AND NEGOTIATION (Code when Cl is .5 or .6)

Identifies not only which, but how objects were used by child in story composition.

.01 Block
.02 Boy
.03 Candle
.04 Car
.05 Clothes Pin
.06 Cotton Ball
.07 Eraser
.08 Key
.09 Money
.10 Nut
.11 Pine Cone
.12 Rock
.13 Spoon
.14 String
.15 Suitcase
.16 Thimble

.1 Negotiated
.2 Not Negotiated
.3 No Explicit Text Tie

4.0 TEXT EVOLUTION (Code when Cl is .5 or .6)

Identifies the perspective from which the text as an object can be logically understood.

.1 Monological
.2 Dialogical - Objects
.3 Dialogical - Researcher
.4 Mixed

5.0 TEXT/CONTEXT RELATIONSHIP (Code when C1 is .5 or .6)

Describes the structural features of the text in relationship to the function when such features served the author.

.1 Inventorying - naming objects in situational context.
.2 Inventorying - of author's actions in relationship to the objects in situational context.
.3 Description - modifying object beyond situational context.
.4 Description - explicating interactions with objects beyond situational context.
.5 Textual Features - Efferent.
.6 Textual Features - Aesthetic.

6.0 TEXT TERMINATION (Code when C1 is .5 or .6)

Describes the conditions leading to the child's termination of the task.

.1 Contextually Signalled by Researcher
.2 Contextually Signalled by Setting
.3 Child-Determined

7.0 PROPOSITIONAL STRUCTURE (Code when C1 is .5 or .6)

Identifies the semantic and pragmatic characteristics of the meaning units within the text. Records the number of propositions falling in each cateogry.

.1 Propositional Base (All types)
.2 PI Propositions
.3 PC Propositions
.4 PA Propositions
.5 ←—Propositions
.6 Case Relations (Includes PA; excludes PI, PC, and ←—)
.7 Nominal Relations (Includes PA; excludes PI, PC, and ←—)
.8 Reference Propositions (Includes PA; excludes PI, PC, and ←—)
.9 Modification (Includes PA; excludes Pi, PC, and ←—)
.0 Connectives (Includes PA; excludes PI, PC, and ←—)

8.0 LOCAL COHERENCE (Code when C1 is .5 or .6)

Identifies the proportion of main line propositions which are tied to each other in the text base.

.1 Proportion - Tied Main Line Propositions (7.6, 7.7, or 7.8) over Total Number of Main Line Propositions in Text Base

9.0 GLOBAL COHERENCE (Code when C1 is .5 or .6)

Identifies the source and nature of macropropositional ties in the text.

.1 Explicit - Textual
.2 Implicit - Textual
.3 Contextually Situated

10.0 EVIDENCE OF INTERTEXTUAL SEMIOSIS (Code when C1 is .5 or .6)

Identifies whether or not this text shows the influence of other textual encounters.

.1 Evidence
.2 No Evidence

11.0 COGNIZANCE OF TASK DEMANDS (Code when C1 is .5 or .6)

Determines child's awareness of task demands based on in-process performance during story dictation.

.1 Demonstrates Pre-existing Cognizance
.2 Discovers Demands
.3 No Apparent Cognizance

12.0 SITUATIONAL SEMIOSIS (Code when C1 is .5 or .6)

Describes whether or not evidence exists that evolving situational constraints have influenced the nature of the text produced.

.1 Evidence
.2 No Evidence

13.0 TEXT PRESENTATIONAL FORM (Code when C1 is .5 or .6)

Describes the total text produced in terms of its linguistic dependency.

.1 Linguistic Presentation
.2 Multimedia Presentation

5.1.2 EXPANDED TAXONOMY: LANGUAGE EXPERIENCE STORY - DICTATION

1.0 WRITER COMMUNICATION DECISION

Describes the relationship between the researcher's request to dictate a story and the child's choice of communication response.

.1 Attempts to Invalidate Contract

Example: After researcher has requested that the child tell a story so that it may be trasnscribed, the child refuses to do so either through silence or by verbally attempting to invalidate the request.

.2 Pseudo-Engagement

Example: After researcher has requested that the child tell a story so that it may be transcribed, the child responds by naming letters of the alphabet or engaging in other instructionally related responses such as giving a list of numbers.

.3 Negotiates Communication Contract

Example: After researcher has requested that the child tell a story so that it may be transcribed, the child responds by listing a series of story titles.

.4 Renegotiates Contractual Agreement (From 1.6 to 1.1, 1.2, or 1.3)

Example: After researcher had requested that the child tell a story so that it may be transcribed, the child initially begins to do so, but then moves to invalidate contract (1.1), pseudo-engagement (1.2), or negotiates communication contract (1.3).

.5 Mixed Communication Decision (From 1.1, 1.2, or 1.3 to 1.6)

Example: After researcher has requested that the child tell a story so that it may be transcribed, the child initially begins by either attempting to invalidate the contract (1.1), pseudo-engagement (1.2), or by negotiating the communication contract (1.3), but then decides to maintain the contract (1.6).

.6 Maintains Communication Contract

Example: After researcher has requested that the child tell a story so that it may be transcribed, the child does so either freely or with prompting.

2.0 ENGAGEMENT (Code when C1 is .5 or .6)

Describes the conditions leading to the child's participation in the contract.

.1 Freely Engages in Contract

Example: When requested to tell a story so that it may be transcribed, the child begins to immediately dictate a story.

.2 Engages With Prompting

Example: When requested to tell a story so that it may be transcribed, the child initially does not do so, but does with continued encouragement and prompting by the researcher.

3.0 OBJECT SELECTION AND NEGOTIATION (Code when C1 is .5 or .6)

Identifies not only which, but how objects were used by child in story composition.

Procedures: Record object selected and then whether it was negotiated or not negotiated.

Up to 4 objects may be recorded. When more than 4 objects were selected, take the first 4 objects used in the story.

OBJECT SELECTION Numbers:

.01 Block
.02 Boy
.03 Candle
.04 Car
.05 Clothes Pin
.06 Cotton Ball
.07 Eraser
.08 Key
.09 Money
.10 Nut
.11 Pine Cone
.12 Rock
.13 Spoon
.14 String
.15 Suitcase
.16 Thimble

.1 Negotiated

Example: Child selects the car (.04
and calls it a truck in story.

Example: Child selects the clothes pin (.05)
and calls it a bat and ball in story.

Example: Child selects the candle (.03) and
makes it a character in the story by the name of candle.

.2 Not Negotiated

Example: Child selects the suitcase (.15) and uses as
a suitcase in the story.

.3 No Explicit Text Tie

Example: Child selects the pine cone (.11) but makes
no explicit text reference to this object.

4.0 TEXT EVOLUTION (Code when Cl is .5 or .6)

Identifies the perspective from which the text as an object can be logically understood.

.1 Monological

The text creates a text world in which all elements can be understood.

Example: The candle met the key and the dollar, too.
And they were friends forever and ever.
(Marc, Age 6)

Example: I go to the store and get something to eat for dinner.
And then when we get done we go back home and go play with my brother.
My mother and my brother go somewhere with dad.
And we read a book.
(Alpha, Age 5)

.2 Dialogical - Objects

Knowledge of the objects used in story dictation or the child's interaction with or between objects is needed for understanding of the text produced.

Example: Put the key in there.
(Nathan, Age 3)

.3 Dialogical - Researcher

The text world created is that of a dialogue between the child and the researcher.

Example: It's a horn.
It's a baseball bat.
This is my choo-choo train.
It blows up.
(Charvin, Age 4).

.4 Mixed

The text world needed in which to understand the text produced is only logical when viewed as a dialogue between the child and the researcher given a context which is shared.

Example: Fall down.
A block.
Candle.
Happy birthday to you, Tasha.
Block.
String.
Toy.
Spoon.
(Tasha, Age 3)

Note: "Fall down" is only interpretable as dialogue between child and researcher when it is known that the comment refers to what a block did from the table at which they were working.

5.0 TEXT/CONTEXT RELATIONSHIP (Code when C1 is .5 or .6)

Describes the structural features of the text in relationship to the function which such features served the author.

Decision Rules: Since it is assumed that inventorying precedes description and description precedes the creation of a story text, either implicitly or explicitly, use the highest level structure produced by a child for purposes of coding.

Structures which resulted from an interaction with the researcher should not be used in determining the highest level text structure produced by a child.

.1 Inventorying - naming objects in situational context.

Example:
It's a horn.
It's a baseball bat.
This is my choo-choo train.
/And then what happens?/
It blows up.
(Charvin, Age 4)

Note: Because "It blows up" is evidence of behavior characteristic of 5.3 but in this instance the result of a child-researcher interaction it is ignored, and the story is properly coded 5.2.

Example:
This is a brown tree.
Rock.
This is a black rock.
Key.
See it says 2603.
Car.
(Jason, Age 5)

.2 Inventorying - of author's actions in relationship to the objects in situational context.

Example: Put my key in there.

(Nathan, Age 3)

Example: I'm going to start the key.
Make a man.
Make a choo-choo.
Make a box.
Eraser.
I have to start my key up.

(Benjamin, Age 4)

.3 Description - modifying object beyond situational context.

Example: Money.
I like money.
Ice cream have a spoon.
Doctors have a suitcase.

(Eugene, Age 6)

Example: Dollar.
Spoon.
Case.
You know what you do with these?
You take the spoon and you dip it in chili and cereal too, and you eat it . . .

(Jason, Age 5)

.4 Description - explicating interactions with objects beyond situational context.

Example: I'm going to buy a book of jingle bells.
I'm going to buy a paint brush.
I'm going to buy a elephants.
I'm going to buy a car.

(Dawn, Age 4)

.5 Textual Features - Efferent

Example: I like friends.
They are nice.
They play with.
(Vincent, Age 6)

Example: People walk.
Cars drive.
People drive cars too.
People live in houses.
The pets live in houses too.
(Alanna, Age 6)

.6 Textual Features - Aesthetic

Example: Heckel and Jeckel.
Him have a new hat.
Help buy a new hat.
Then it blow away.
Then it put that and a whole bunch of hats come down.
And then it put the rest down.
And all the hats come down.
(Ben, Age 4)

Example: Once upon a time there was a little girl and she was seventeen.
And she rided a car.
And she saw a statue.
(Sally, Age 5)

Example: This is the car at the grocery store.
She put her bag up here and she didn't know that her bag was almost open.
Then she went on walking.
Then she kept on walking and she hit a big rock.
And her bag busted open.
Superman flew down and helped her pick up the groceries up off the ground so they wouldn't bust open anymore - like the can busted open more than the other stuff.
(Natasha, Age 6)

Example: One day the three bears came to eat their porridge but it was too hot so they went for a walk.
While they were gone, a little girl named Goldilocks saw the little house of the three bears.
She opened the door and saw the three bowls of porridge.
(Jake, Age 6)

6.0 TEXT TERMINATION (Code when C1 is .5 or .6)

Describes the conditions leading to the child's termination of the task.

.1 Contextually Signalled by Researcher

Example: Child had been dictating lines of the text and after completing a given line the researcher asks, "Is that all there is to your story?", thereby signalling the child to terminate the text.

.2 Contextually Signalled by Setting

Example: Child continues to dictate story text until the bottom of the page is reached by the researcher and then declares the story is finished.

.3 Child-Determined

Example: Child self-determines when text is terminated. No situational cues seem to be operative.

7.0 PROPOSITIONAL FUNCTION (Code when Cl is .5 or .6)

Identifies the semantic and pragmatic characteristics of the meaning units within the text. The number of propositions falling within each category is recorded.

Procedures: Text is propositionalized following procedures developed by Turner and Green (Kintsch, 1977).

Propositions which meet the following unique criteria are then identified and marked within the text propositional base.

Propositional Marking Procedures:

PI - Pragmatic Interaction	Mark any proposition which was generated as a result of intervention by the researchers which affected story content or structure with a PI.

Example

Dictation: It's a horn.
It's a baseball bat.
This is my choo-choo train.
[And then what happens?]
It blows up.
(Charvin, Age 3)

Propositional Analysis Worksheet:

1. (ISA, $, HORN)

2. (ISA, $, BASEBALL BAT)

3. (ISA, $, CHOO-CHOO TRAIN)

4. (POSSESS, CHARVIN, CHOO-CHOO TRAIN)

PI + 5a. (BLOW UP, ∅, $)

+ b. (BLOW UP, ∅, TRAIN)

Propositional Marking Procedure Continued

PC - Pragmatic Confusion	Mark any proposition which was generated as a result of misinterpretation on the part of the researcher as being a part of the story text as PC.

Example

Dictation: Spoon.
Keys.
Car.
Lid.
That's all the toys we have right here.
I have to have more toys.
(Mike, Age 4)

Note: The last two lines of text were meant as asides to the researcher but which in this instance got recorded as the child's story text.

Propositional Analysis Worksheet.

1. (> ISA, > $, SPOON)

2. (> ISA, > $, KEYS)

3. (> ISA, > $, CAR)

4. (> ISA, > $, LID)

PC 5. (HAVE, MIKE & RESEARCHER, TOYS)

PC 6. (LOCATION OF, (5), IN THIS SETTING)

PC 7. (NEED, MIKE, TOYS)

PC 8. (QUANTITY, TOYS, MORE)

Propositional Marking Procedures Continued

PA - Pragmatic Alteration	Mark any proposition which is a change of meaning from that which the child dictated but where that change does not alter the basic structure of the cases within the proposition with a PA.

Example

Dicatation: This is the car at the grocery shop.

Transcribed as: This is the car at the grocery store.

(Natasha, Age 6)

Propositional Analysis Worksheet:

1. (> ISA, $, CAR)

PA 2. (LOCATION; AT, (1) GROCERY STORE)

Propositional Marking Procedures Continued

←— Semantic Redundancy	Mark any proposition within the propositional text base which is redundant of other propositions in the same text with ←—. Note: Redundancy which is deemed as stylistic should not be so marked.

Example

A little house dog ran in the house and painted all over the wall.

6. (RUN, DOG)
7. (LOCATION: IN, (6) HOUSE)
8. (QUALITY OF, DOG, LITTLE)
9. (QUALITY OF, DOG, HOUSE)
10. (PAINT, DOG, WALL)
11. (QUALIFY, (10), ENTIRE)
12. (CONJ: AND, (7),(10))

The little house dog ran into the house and . . .

←— 13. (RUN, DOG)
←— 14. (LOCATION: IN (13), HOUSE)
←— 15. (QUALITY OF, DOG, LITTLE)
←— 16. (QUALITY OF, DOG, HOUSE)

Propositional Marking Procedures Continued

Once all PI, PC, Pa, and ←— Propositions in the Text Base have been identified, the number of propositions falling in each of the following categories is recorded.

.1 Propositional Base (All types)

Record the total number of propositions in the text base regardless of prefixes.

Example: 1. (ISA, $, HORN)
2. (ISA, $, BASEBALL BAT)
3. (ISA, $, CHOO-CHOO TRAIN)
4. (POSSESS, CHARVIN, CHOO-CHOO TRAIN)
PI + 5a. (BLOW UP, 0, $)
+ b. (BLOW UP, 0, TRAIN)

Record: 5 (five)

Note: There are seemingly 6 propositions here, but because 5 is ambiguous (+) both meanings are written and a new number is not created as this would inflate the actual number of meaning units in the text base.

.2 PI Propositions

Record the total number of PI marked propositions that are in the text base.

Example: See Propositional Analysis Worksheet Above (p.)

Record: 1 (one)

.3 PC Propositions

Record the total number of PC marked propositions that are in the text base.

Example: See Propositional Analysis Worksheet included in Propositional Marking Procedures for this category (p.)

Record: 4 (four)

.4 PA Propositions

Record the total number of PA marked propositions that are in the text base.

Example: See Propositional Analysis Worksheet included in Propositional Marking Procedures for this category (p.).

Record: 1 (one)

.5 ←— Propositions

Record the total number of ←— marked propositions that are in the text base.

Example: See Propositional Analysis Worksheet included in Propositional Marking Procedures for this category (p.).

Record: 4 (four)

Note: There are more than this in the total text but given the portion of the text in the example, 4 would be the correct marking for this category.

.6 Case Relations

Record the total number of propositions which express ideas of actions or states in the text base. Include all PA marked case relations but exclude all PC, PI, and ←— case relations that reside in the text base.

Example of Case Relations: (GET, DOG, FOOD)
(BLOW UP, Ø, $)
(HAPPY, E: DOG)

.7 Nominal Relations

Record the total number of propositions which signal set membership in the text base. Include all PA marked nominal relations but exclude all PI, PC, and ←— nominal relations that reside in the text base.

Example of Nominal Relations: (ISA, $, CHOO-CHOO TRAIN)
(> ISA, $, CAR)

.8 Reference Propositions

Record the total number of propositions which reference one concept as identical to another in the text base. Include all PA marked reference propositions but exclude all PI, PC, and ←– marked reference propositions.

Example of
Reference Propositions: (REFERENCE, MOTHER, MRS. MILLER)
(REFERENCE, MR. MILLER, FATHER)

.9 Modification

Record the total number of propositions which change concepts by limiting, restricting, or negating in the text base. Include all PA marked modifications, but exclude all PI, PC, and ←– marked modifications.

Example of Modification: (QUALITY OF, DOG, LITTLE)
(QUANTITY OF, TOYS, ALL)
(QUALIFY, (1), RAPIDLY)
(LOCATION OF, (1), HOUSE)
(NEGATE, (8)

.0 Connectives

Record the total number of propositions which relate concepts one to another in the text base. Include all PA marked connectives, but exclude all PI, PC, and ←– connectives.

Example of Connectives: (CONJ: AND, (1), (2), (3))
(TIME: AFTER (10), (14))
(CONTRAST: AS A RESULT OF (1), (2))

8.0 LOCAL COHERENCE (Code when Cl is .5 or .6)

Records the proportion of main line propositions which are tied to each other in the text base.

Procedures: Only main line propositions are used in this analysis.

Main line propostions are of three types: (1) Case Relations (7.6), (2) Nominal Relations (7.7), and (3) Reference Propositions (7.8).

Using main line propositions a map is drawn of the text such that each main line proposition is represented and a line connecting main line propositions is drawn when such propositions share cases or are in fact embedded within each other.

The total number of main line propositions which are tied (have lines drawn between them) in the map is then divided by the total number of main line propositions in the text.

This number is the proportion of main line propositions which are tied to each other and gives a measure of the local coherence of the text.

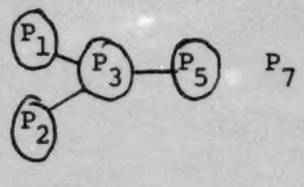
Example: Dictated text

People walk.
Cars drive.
People drive cars too.
People live in houses.
The pets live in houses too. (Alanna, Age 6)

Propositional Base:
1. (PEOPLE, WALK)
2. (DRIVE, CARS)
3. (DRIVE, PEOPLE, CARS)
4. (CONJ: IN ADDITION TO, (1), (3))
5. (RESIDE, PEOPLE)
6. (LOCATION: (5), IN HOUSES)
7. (RESIDE, PETS)
8. (LOCATION: (7), IN HOUSES)
9. (CONTRAST; TOO (6), (8))

Main Line Propositions: 1,2,3,5,7

Map:



P1 & P2 have no shared cases.
P3 shares cases with P1 and P2.
P5 shares the case "PEOPLE" with P3 and hence is joined.
P7 shares the case "RESIDE" with P5 and hence is joined.

Proportion Recorded: $\frac{4}{5} = .80$

Record: 80

Example: Dicated Text:

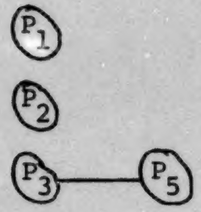
It's a horn
It's a baseball bat.
This is my choo-choo train.
It blows up.

Propositional Base:

1. (ISA, $, HORN)
2. (ISA, $, BASEBALL BAT)
3. (ISA, $, CHOO-CHOO TRAIN)
4. (POSSESS, CHARVIN, TRAIN)
5. (BLOWS UP, Ø, $)
   (BLOWS UP, Ø, TRAIN)

Main Line Propositions: 1, 2, 3, 5

Map:



P1, P2, and P3 have no shared content relationships.
P5 is ambiguous but since it is possible that the second alternative is the true intended meaning a tie is made to P3.

Proportion Recorded: $\frac{1}{4} = .25$

Record: 25

9.0 GLOBAL COHERENCE (Code when Cl is .5 or .6)

Identifies the source and nature of macropropositional ties in the text.

.1 Explicit - Textual

A proposition, explicitly stated, to which all other main line propositions in the text are tied.

Example: The candle met the key and the dollar too.

1. (MEET, CANDLE, DOLLAR)
2. (MEET, CANDLE, KEY)
3. (CONJ: AND (2), (1))
4. (CONJ: ALSO, (1), (2))

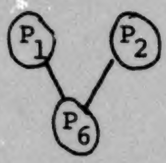
And they were friends forever and ever.

5. (CONJ: AND, CANDLE, KEY, DOLLAR)
6. (BECOME, (5), FRIENDS)
7. (QUALIFY, (6), EVERLASTING)
8. (CONJ: AND (3), (6))
9. (CONJ: AS A RESULT OF, (3), (5))

(Marc, Age 6)

Main Line Propositions: P1, 2, 6

Map:



The main idea of the text is directly stated in the propositional base. In this case P6 not only ties P1 and P2 but is the main idea which ties the text together.

.2 Implicit - Textual

A proposition which ties all of the propositions in this text could be created but is not explictly stated in the micro-propositional text base.

Example: I go to the store and get something to eat for dinner.
1. (GO, ALPHA, STORE)
2. (GET, ALPHA, SOMETHING)
3. (EAT, ALPHA, DINNER)
4. (CONJ: AND, (1), (2))
5. (PURPOSE: OF, (4), (3))

And then when we get done we go back home and go play with my brother.

6. (TERMINATE, ALPHA AND PERSON, SHOPPING)
7. (RETURN, ALPHA AND PERSON, HOME)
8. (PLAY, ALPHA AND PERSON, Ø)
9. (CIRCUMSTANCE, (8), WITH BROTHER)
10. (POSSESS, ALPHA, BROTHER)
11. (CONJ: AND (7), (8))
12. (TIME: WHEN, (6), (11))
13. (CONJ: AND THEN, (5), (12))

My mother and my brother go somewhere with dad.

14. (POSSESS, ALPHA, MOTHER)
15. (POSSESS, ALPHA, BROTHER)
16. (CONJ: AND (14), (15))
17. (GO, (16), SOMEWHERE)
18. (CIRCUMSTANCE, (17), WITH DAD)

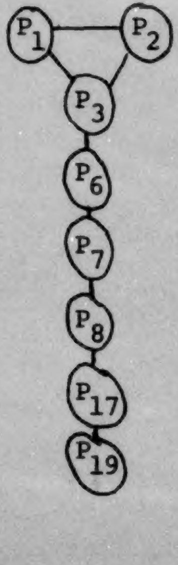
And we read a book.

19. (READ, ALPHA AND PERSON, BOOK)
20. (CONJ: AND, (17), (19))

(Alpha, Age 5)

Main Line Propositions: P1, 2, 3, 6, 7, 8, 17, 19

Map:



Because the other person in P8 given the total text is Alpha's mother, or at least there is reason to believe this, all main line propositions are tied in this text.

Decision: Although this is a very cohesive piece of text no single proposition expresses the main theme around which all other propositions cohere. We can of course think of one like "Things I do after school." While there may be even better ones than this available, the fact that we can tie all main line propositions around a single propositional theme qualifies it as being implicitly globally cohesive.

.3 Contextually Situated

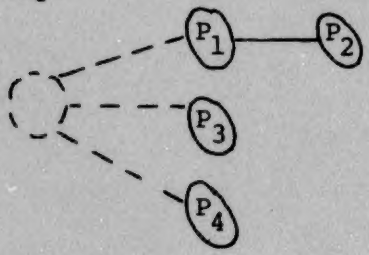
A proposition which ties all main line propositions in this text could be created using the context of the story setting.

Example: Money.
1. (> ISA, > $, MONEY)
I like Money.
2. (LIKE, EUGENE, MONEY)
Doctors have suitcase.
3. (HAVE, DOCTORS, SUITCASE)
Ice cream have a spoon.
4. (> EAT, ∅, I: SPOON, ICE CREAM)

(Eugene, Age 6)

Main Line Propositions: P1, 2, 3, 4.

Map:



Decision: While this text is locally not very cohesive, it could be made very cohesive by simply inferring the setting, and creating a proposition such as: "Things these objects make me think of" (see map above).

10.0 EVIDENCE OF INTERTEXTUAL SEMIOSIS (Code when C1 is .5 or .6)

Identifies whether or not this text shows the influence of other textual encounters.

.1 Evidence

Example:
The candle met the key and the dollar too.
And they were friends forever and ever. (Marc, Age 6)

Note: "Forever and ever" is a common story ending which is included in this text.

Example:
One day it was three little bears.
They had pork chops and they went to the park.
Then a little girl came to the house.
She ate the father pork chop.
She said, "Oh, it is too hot."
Then she ate the mother pork chop.
Then she said, "It is too soft." (LaShell, Age 6)

Note: This story has the same structure as that of "The Three Bears" and is a direct take off from that story.

Example:
Fall down.
A block.
Candle.
Happy birthday to you, Tasha.
Block.
String.
Toy.
Spoon. (Tasha, Age 3)

Note: This story has a single line "Happy Birthday to you, Tasha," which comes from another text and would therefore be used as evidence of intertextual semiosis.

.2 No Evidence

Example:
It's a horn.
It's a baseball bat.
This is my choo-choo train.
It blows up. (Charvin, Age 4)

Note: This story does not reflect any other text or text structure which is readily identifiable.

11.0 COGNIZANCE OF TASK DEMANDS (Code when C1 is .5 or .6)

Determines child's awareness of task demands based on in-process performance during story dictation.

.1 Demonstrates Pre-existing Cognizance

Example: Child dictates story in word or phrase units allowing transcription time for each unit before proceeding.

.2 Discovers Demands

Example: Child begins by dictating a large amount of text, but after awareness adjusts rate of dictation to speed of transcription.

.3 No Apparent Cognizance

Example: Child shows little or no cognizance of the task demands involved in story dictation and constantly continues to give large amounts of text at once and at a pace beyond the speed of transcription.

12.0 SITUATIONAL SEMIOTICS (Code when C1 is .5 or .6)

Describes whether or not evidence exists that evolving situational constraints have influenced the nature of the text produced.

.1 Evidence

Example: A block falling off the table causes Tasha to dictate "Falls down" in text.

Note: Evidence must exist beyond just the presence of the objects in the situation; that is, there must be an effect from the situation which evolves and which gets reflected in the text.

Example: The researcher asks the child to "Sit down," and later in the course of text dictation the child uses this line in the story produced.

Note: Evolving situational constraints are reflected in the story.

.2 No Evidence

There is no such evidence as that identified in the above categories shown in the text which is dictated.

13.0 TEXT PRESENTATIONAL FORM (Code when C1 is .5 or .6)

Describes the total text produced in terms of its linguistic dependency.

.1 Linguistic Presentation

The text produced by the child does not include alternate communication system forms such as dramatization.

.2 Multimedia Presentation

The text produced by the child does include alternate communication systems forms such as dramatization with objects, hand gestures.

5.2.1 TAXONOMY: LANGUAGE EXPERIENCE STORY - READING

1.0 READER COMMUNICATION DECISION

Describes the relationship between the researcher's request to read the story and the child's choice of communication response.

.1 Attempts to Invalidate Contract
.2 Pseudo-Engagement
.3 Negotiates Communication Contract
.4 Renegotiates Contractual Agreement (From 1.6 to 1.1, 1.2, or 1.3)
.5 Mixed Communication Decision (From 1.1, 1.2, or 1.3 to 1.6)
.6 Maintains Communication Contract

2.0 ENGAGEMENT (Code when C1 is .5 or .6)

Describes the conditions leading to the child's participation in contract.

.1 Freely Engages in Contract
.2 Engages With Prompting

3.0 PROPOSITIONAL FUNCTION (Code when C1 is .5 or .6)

Compares meaning units in Story Dictation Text with Text produced during First Reading and describes each in terms of purpose. The number of propositions falling in each category is recorded.

.1 Maintenance of Base Propositions
.2 PI Propositional Maintenance
.3 PC Propositional Maintenance
.4 PA Propositional Maintenance
.5 ←— Propositional Maintenance
.6 Partially Generative
.7 Generative
.8 Generative Expansion

4.0 SYNTACTIC COGNIZANCE (Code when C1 is .5 or .6)

Compares syntactic units in Story Dictation Text to syntactic units produced during First Reading and describes the relationship which exists in terms of syntactic coordination.

.1 No Apparent Coordination
.2 Generalized Coordination
.3 Available Within Text
.4 Mixed

5.0 GRAPHIC COGNIZANCE (Code when C1 is .5 or .6)

Compares graphic units in Story Dictation Text to phonemic units produced during First Reading and describes the relationship which exists in terms of graphic availability.

.1 Unavailable in Text
.2 Minimal Text Signal
.3 Available Within Text
.4 Mixed Response

5.2.2 EXPANDED TAXONOMY: LANGUAGE EXPERIENCE STORY - READING

1.0 READER COMMUNICATION DECISION

Describes the relationship between the researcher's request to read the story and the child's choice of communication response.

.1 Attempts to Invalidate Contract

Example: When asked to read the story which was dictated the child responds with silence or statements such as "I don't know how to read" and refuses to participate in the contractual agreement posed.

.2 Pseudo-Engagement

Example: When asked to read the story which was dictated the child responds by naming letters.

.3 Negotiates Communication Contract

Example: When asked to read the story which was dictated the child responds by answering some other question thus moving the contract to be something other than reading of the story.

.4 Renegotiates Communication Contract

Example: When asked to read the story which was dictated the child initially begins to do so but then negotiates the contract to be something other than reading, engages in pseudo-reading behaviors, or invalidates the contract by saying "I can't read."

.5 Mixed Communication Decision (From 1.1, 1.2, or 1.3 to 1.6)

Example: When asked to read the story which was dictated, the child initially begins by attempting to invalidate the contract, engaging in pseudo-reading, or by negotiating the contract, but then elects to maintain the contract and continues to do so for the remainder of the contract.

.6 Maintains Communication Contract

Example: When asked to read the story which was dictated the child does so either freely or with prompting.

2.0 ENGAGEMENT (Code when Cl is .5 or .6)

Describes the conditions leading to the child's participation in contract.

.1 Freely Engages in Contract

When requested to read the story which was dictated the child begins to immediately do so.

.2 Engages With Prompting

When requested to read the story which was dictated, the child does so but only after prompting from the researcher.

3.0 PROPOSITIONAL FUNCTION (Code when C1 is .5 or .6)

Compares meaning units in Story Dictation Text with Text produced during First Reading and describes each in terms of purpose. The number of propositions falling in each category is recorded.

Procedures: Compare Story Dictation Text with Text produced during First Reading.

Mark all PI, PC, PA, and ←— Propositions which appear in the text produced during First Reading.

Code all propositions (including PI, PC, PA, and ←—) as to whether they maintain a base proposition, are partially generative given the base propositions, generative given the base propositions, or generative expansion given the base propositions following the procedures delineated below.

Propositional Marking Procedures

M - Maintenance — Mark any proposition M which reappears across texts in an exact propositional form.

Example

Dictation:
It's a horn.
It's a baseball bat.
This is my choo-choo train.
It blows up. (Charvin, Age 4)

1. (ISA, $, HORN)
2. (ISA, $, BASEBALL BAT)
3. (ISA, $, CHOO-CHOO TRAIN)
4. (POSSESS, CHARVIN, TRAIN)

PI + 5a. (BLOWS UP, Ø, $)
+ b. (BLOWS UP, Ø TRAIN)

First Reading:
This is my baseball bat.
This is my horn.
It blows up.
This is my choo-choo.

M — 1. (ISA, $, BASEBALL BAT)
2. (POSSESS, CHARVIN, BASEBALL BAT)
M -- 3. (ISA, $, HORN)
4. (POSSESS, CHARVIN, HORN)
M PI + 5. (BLOWS UP, Ø, $)
+ (BLOWS UP, Ø, HORN)
M 6. (ISA, $, CHOO-CHOO TRAIN)
M 7. (POSSESS, CHARVIN, CHOO-CHOO TRAIN)

Propositional Marking Procedures Continued:

PG - Partially Generative	Mark any proposition PG which maintains dictated propositional meaning but which does so in a slightly altered deep structure form or which extends story meaning through additional ties through extant propositions.

Example

Dictation: (Story Portion)
My mother and my brother go somewhere with dad.
And we read a book.
(Alpha, Age 5)

1. (POSSESS, ALPHA, MOTHER)
2. (POSSESS, ALPHA, BROTHER)
3. (CONJ: AND, (1), (2))
4. (GO, (3), SOMEWHERE, I: > CAR)
5. (CIRCUMSTANCE, (4), WITH DAD)
6. (READ, ALPHA AND PERSON, BOOK)
7. (CONJ: AND, (4), (6))

First Reading: (Same Story Portion)
And we get in the car with dad.
And we read books.

PG 1. (ENTER, ALPHA AND PERSON, CAR)
2. (CIRCUMSTANCE, (1), WITH DAD)
PG 3. (CONJ: AND, (*Previous Text), (1))
4. (READ, ALPHA AND PERSON, BOOKS)
5. (CONJ: AND (1), (4))

Example:

Dictation: The dog ate food.
(EAT, DOG, FOOD)

First Reading: The dog got food.
PG (GET, DOG, FOOD)

Propositional Marking Procedures Continued

G - Generative	Mark any proposition G which is a totally new proposition given dictated propositional base but falls within the original semantic field of the dictated text.

Example

Dictation: It's a horn.
It's a baseball bat.
This is my choo-choo train.
It blows up.
(Charvin, Age)

1. (ISA, $, HORN)
2. (ISA, $, BASEBALL BAT)
3. (ISA, $, CHOO-CHOO TRAIN)
4. (POSSESS, CHARVIN, TRAIN)
5a. (BLOW UP, Ø, $)
b. (BLOW UP, Ø, TRAIN)

First Reading:
This is my baseball bat.
This is my horn.
It blows up.
This is my choo-choo.

1. (ISA, $, BASEBALL BAT)
G 2. (POSSESS, CHARVIN, BASEBALL BAT)
3. (ISA, $, HORN)
G 4. (POSSESS, CHARVIN, HORN)
5a. (BLOW UP, Ø, $)
b. (BLOW UP, Ø, HORN)
6. (ISA, $, CHOO-CHOO TRAIN)
7. (POSSESS, CHARVIN, TRAIN)

Propositional Marking Procedures Continued

GE- Generative Expansion — Mark any proposition GE which is a totally new proposition which appears in the First Reading and which functions to extend the semantic field of the Dictated Text.

Example

Dictation

A little house dog ran in the house and painted all over the wall. The little house dog ran into the house and ate all the food and painted all over the wall. The little house dog went in the house and got the eraser and erased all over the wall and he painted all over the wall and he pooped all over the house.

(Michelle, Age 5)

SEMANTIC FIELD.

6. (RUN, DOG)
10. (PAINT, DOG, WALL)
13. (RUN, DOG)
17. (EAT, DOG, FOOD)
26. (GET, DOG, ERASER)
27. (ERASE, DOG, WALL)
31. (POOP, DOG)

First Reading

The little house dog went in the house, ate all the food, got the eraser and erased all over the wall and pooped all over the house. And then he decided she would go for a nap. And then when he woke up there was someone there. Then he saw him. He got scared and he scared him away.

WITHIN SEMANTIC FIELD

1. (GO, DOG)
3. (EAT, DOG, FOOD)
5. (GET, DOG, ERASER)
6. (ERASE, DOG, WALL)
8. (POOP, DOG)

EXTEND SEMANTIC FIELD

GE 12. (DECIDE, DOG^{A}, (13))
GE 13. (TAKE, DOG^{A*}, NAP)
GE 14. (CONTRAST: AFTER, (11), (12))
GE 15. (WAKE, DOG, DOG)
GE 16. (ARRIVE, SOMEONE, HOUSE)
ETC.

Procedures Continued Once all PI, PC, PA, ←—, M, PG, G, and GE propositions have been identified and marked, the number of propositions falling in each of the following categories is recorded.

.1 Maintenance of Base Propositions

Records the total number of propositions which are marked M regardless of other prefixes such as PI, PC, PA, and ←—.

Example: See Maintenance Propositional Marking Procedures Example Text (p.).

Record: 5 (five)

.2 PI Propositional Maintenance

Records the total number of propositions which are marked both M and PI.

Example: See Maintenance Propositional Marking Procedures Example Text (p.).

Record: 1 (one)

.3 PC Propositional Maintenance

Records the total number of propositions which are marked both M and PC.

.4 PA Propositional Maintenance

Records the total number of propositions which are marked both PA and M.

.5 ←— Propositional Maintenance

Records the total number of propositions which are marked both M and ←—.

.6 Partially Generative

Records the total number of propositions which are marked PG.

Example: See Text Example under Propositional Marking Procedures for this category (p.).

Record: 2 (two) /Alpha Text/

.7 Generative

Records the total number of propositions which are marked G.

Example: See Text Example under Propositional Marking Procedures for this category (p.).

Record: 2 (two)

.8 Generative Expansion

Records the total number of propositions which are marked GE.

Example: See Text Example under Propositional Marking Procedures for this category (p.).

Record: 5 (five)

4.0 SYNTACTIC COGNIZANCE (Code when C1 is .5 or .6)

Compares syntactic units in Story Dictation Text to syntactic units produced during First Reading and describes the relationship which exists in terms of syntactic coordination.

.1 No Apparent Coordination

Example:
Money.
I like money.
Ice cream have spoon.
Doctors have a suitcase.
(Eugene, Age 6)

First Reading:

Hope I come back to this place.
Hope I see people.

.2 Generalized Coordination

Example:

Dictation	First Reading
Fall down.	A man took.
A block.	Grey Block.
Candle.	Fall Block.
Happy Birthday to you, Tasha.	Sit down.
Block.	
String.	
Toy.	
Spoon.	

(Tasha, Age 3)

.3 Available Within Text

Example:

Dictation	Reading
Fall down.	Fall block.
A block.	Birthday.
Candle.	Candle.
Happy Birthday to you, Tasha.	Tasha.
Block.	
String.	Note: This occurred during Tasha's second reading of the text, but is included here as the type of text that would be coded 4.3.
Boy.	
Spoon.	
(Tasha, Age 3)	

Example: Dictation

The candle met the key and the dollar too.
And they were friends forever and ever.
(Marc, Age 6)

First Reading

The candle met the key and the dollar too.
And they were friends forever and ever.

.4 Mixed

Example: Dictation

I go to the store and get something for dinner.
And then when we get done we go back home and go play with my brother.
My mother and my brother go somewhere with dad.
And we read a book.
(Alpha, Age 5)

First Reading

I like playing on the bed with my brother and me.
And we get in the car with dad.
And we read books.
We are going to the store and buy something to eat for dinner.

5.0 GRAPHIC COGNIZANCE (Code when Cl is .5 or .6)

Compares graphic units in Story Dictation Text to phonemic units produced during First Reading and describes the relationship which exists in terms of graphic availability.

.1 Unavailable in Text

Example: Money.
I like money.
Ice cream have a spoon.
Doctors have a suitcase.
(Eugene, Age 6)

First Reading

Hope I come back to this place
Hope I see people.

.2 Minimal Text Signal

Example:

Dictation	First Reading
Fall down.	A man took.
A block.	Grey Block.
Candle.	Fall Block.
Happy Birthday to you, Tasha.	Sit down.
Block.	
String.	
Toy.	
Spoon.	

(Tasha, Age 3)

.3 Available Within Text

Example: Dictation

One day the three bears came to eat their porridge but it was too hot so they went for a walk.
While they were gone, a little girl named Goldilocks saw the little house of the three bears.
She opened the door and saw the three bowls of porridge.

(Jake, Age 6)

First Reading

One day the three bears came to eat their porridge but it was too hot so they went for a walk.
While they were gone, a little girl named Goldilocks saw the little house of the three bears.
She opened the door and saw the three bowls of porridge.

.4 Mixed Response

Example: Dictation

The people gets the suitcase, and he gets the cap, and he goes inside the truck.
And he goes to a hotel.
And he rides in an airplane at the hotel.
And he gets done riding inside the airplane, he goes swimming.
And then he gets some sand and puts it on the slide and he slides down the sand on the slide.
Then he went to bed.
Then he got his clothes on and went home.
And then he went outside to play.

(Brandyce, Age 5)

First Reading

The people gets the suitcase, he went back home and then he went inside the airplane and went to the hotel.
And then he went to pick up the truck and also then he went swimming.
And then he put some sand on the slide and he slided down the slide.
And also he went home and he played.

5.3.1 TAXONOMY: LANGUAGE EXPERIENCE STORY - REREADING

1.0 READER COMMUNICATION DECISION

.1 Attempts to Invalidate Contract
.2 Pseudo-Engagement
.3 Negotiates Communication Contract
.4 Renegotiates Contractual Agreement (From 1.6 to 1.1, 1.2, or 1.3)
.5 Mixed Communication Decision (From 1.1, 1.2, 1.3 to 1.6)
.6 Maintains Communication Contract

2.0 ENGAGEMENT (Code when C1 is .5 or .6)

.1 Freely Engages in Contract
.2 Engages With Prompting

3.0 PROPOSITIONAL FUNCTION (Code when C1 is .5 or .6)

(Relationship between Dictated Text and Second Reading)

.1 Maintenance of Base Propositions
.2 PI Propositional Maintenance
.3 PC Propositional Maintenance
.4 PA Propositional Maintenance
.5 ←-- Propositional Maintenance
.6 Partially Generative
.7 Generative
.8 Generative Expansion

4.0 PROPOSITIONAL FUNCTION (Code when C1 is .5 or .6)

(Relationship between First Reading and Second Reading)

.1 Maintenance of Propositional Base in First Reading
.2 Partially Generative
.3 Generative
.4 Generative Expansion

5.0 SYNTACTIC COGNIZANCE (Code when C1 is .5 or .6)

- .1 No Apparent Coordination
- .2 Generalized Coordination
- .3 Available Within Text
- .4 Mixed

6.0 GRAPHIC COGNIZANCE (Code when C1 is .5 or .6)

- .1 Unavailable Within Text
- .2 Minimal Text Signal
- .3 Available Within Text
- .4 Mixed Response

5.3.2 EXPANDED TAXONOMY: LANGUAGE EXPERIENCE STORY - REREADING

1.0 READER COMMUNICATION DECISION

Describes the relationship between the researcher's request to reread the story (Second Reading) and the child's choice of communication response.

The same criterion applies for Second Reading as it did for First Reading. See Expanded Taxonomy READING for examples (pp.).

.1 Attempts to Invalidate Contract
.2 Pseudo-Engagement
.3 Negotiates Communication Contract
.4 Renegotiates Contractual Agreement (From 1.6 to 1.1, 1.2, or 1.3)
.5 Mixed Communication Decision (From 1.1, 1.2, or 1.3 to 1.6)
.6 Maintains Communication Contract

2.0 ENGAGEMENT (Code when C1 is .5 or .6)

Describes the conditions leading to the child's participation in contract.

The same criterion applies for Second Reading as it did for First Reading. See Expanded Taxonomy READING for examples (p.).

.1 Freely Engages in Contract
.2 Engages With Prompting

3.0 PROPOSITIONAL FUNCTION (Code when C1 is .5 or .6)

Compares meaning units in Story Dictation Text with Text produced during second reading and describes each in terms of purpose. The number of propositions falling in each category is recorded.

The same criterion applies for Second Reading as it did for First Reading. See Expanded Taxonomy READING for procedures and examples (pp.)

.1 Maintenance of Base Propositions
.2 PI Propositional Maintenance
.3 PC Propositional Maintenance
.4 PA Propositional Maintenance
.5 ←-- Propositional Maintenance
.6 Partially Generative
.7 Generative
.8 Generative Expansion

4.0 PROPOSITIONAL FUNCTION (Code when Cl is .5 or .6)

Compares meaning units in First Reading Text with meaning units in Second Reading Text and describes each in terms of purpose. The number of propositions falling in each category is recorded.

The same criterion applies for determining propositions which maintain meaning, are partially generative, generative and generative expansive. See Expanded Taxonomy Reading Category 3.0 for identification procedures and examples of each type (pp.).

.1 Maintenance of Propositional Base in First Reading
.2 Partially Generative
.3 Generative
.4 Generative Expansion

5.0 SYNTACTIC COGNIZANCE (Code when Cl is .5 or .6)

Compares syntactic units in Story Dictation Text to syntactic units produced in Second Reading Text and describes the relationship which exists in terms of syntactic coordination.

The same criterion applies for Second Reading as it did for First Reading. See Expanded Taxonomy READING for examples (pp.).

.1 No Apparent Coordination
.2 Generalized Coordination
.3 Available Within Text
.4 Mixed

6.0 GRAPHIC COGNIZANCE (Code when Cl is .5 or .6)

Compares graphic units in Story Dictation Text to phonemic units produced during Second Reading and describes the relationship which exists in terms of graphic availability.

The same criterion applies for Second Reading as it did for First Reading. See Expanded Taxonomy READING for examples (pp.).

.1 Unavailable in Text
.2 Minimal Text Signal
.3 Available Within Text
.4 Mixed Response

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7.0 ADDENDUM

7.1 RESEARCH TASK DIRECTIONS

Task 1: Environmental Print

Task Sequence:

Condition 1	Condition 2	Condition 3
Packaged products	Two dimensional graphics removed from products	Typed print

Researcher Script:

Condition 1

1. What do you think this says?
2. What things do you see that help you to know what this says?
3. Tell me some of the things you know about this.

Condition 2

1. What do you think this says?
2. What things do you see that help you to know what this says?

Condition 3

1. What do you think this says?

Task 2: Language Experience Story

Task Sequence:

1. Talk about favorite stories.
2. Display toys and discuss generally.
3. Pick 1 to 3 objects.
4. Dictate to scribe.
5. Re-read story.
6. Re-read one day later.

Sequences to be videotaped.

Researcher Script:

1. I really like the story about Angus and the Cat. When the Cat first comes to live in Angus' house they fight. They fight over the food, and they fight over the places that they want to sit. The Cat hits Angus and Angus chases the Cat.

   But one day when the Cat disappears, do you know what happens? Angus gets lonely. He misses the Cat and he's very happy when the Cat comes back.

   Another story that I really like tells all about Cats and Kittens. It tells how cats and kittens are alike. It tells that they both like milk, that they both hunt, and even that they both get mad.

2. What story do you like? What do you like especially about ____________________________?

3. Today you are going to make up a story. I have lots of things in this box that you can use to tell a story. (Show child objects in box).

4. Choose 2 or 3 things that you want to use in your story. Look at the things you've chosen and take a minute to think about the story you're going to tell.

5. Now you tell me your story and I'll write it down on the paper while you tell it. What do you want me to write first?

6. Here is your story. Read it for me.

---------------------------ONE DAY LATER---------------------------

7. Yesterday you chose some toys and wrote a story for me. What was your story about? (If you are having trouble remembering, why don't you think first about the toys you chose?)

8. Here is your story. (Put paper(s) on reading stand). Now read or pretend to read your story for me.

Materials:

* box of toys
* writing paper and pencil
* videotape

Task 3: Uninterrupted Writing and Drawing

Task Sequence:

Child is given blank paper and choice of pencils.

1. Write your name for me.
2. Now write or pretend to write anything else that you can write.
3. Can you write anything else? (repeated until child stops process)
4. Read me what you wrote. Show me what you wrote.

Child is given blank paper.

5. Draw a picture of yourself so that I can take it with me.

Directions for Observer:

1. Using Observation Sheet and record with blue pencil each item produced by the child, placing it in an appropriate section of Observation Sheet.
2. Number each item designating sequence of production.
3. Note any significant behaviors or comments of child in relationship to item produced.

------------------During child's re-reading------------------

4. Record with red pencil each item read by child, placing notation above appropriate text (blue) item.
5. Number each item read designating sequence of production.
6. Note any significant behaviors or comments of child in relationship to item produced.

Materials:

* unlined paper, pencils, crayons (child will have a primary and regular pencil available from which to choose)
* audiotape/videotape
* observer/recorder sheet

Task 4: Reading a Book

Task Sequence:

1. Look through book, Ten Little Bears.
2. Read or pretend to read the book.

Researcher Script:

1. Here is a book that has a story in it. I want you to look through the book and find out about the story. When you have decided about the story I want you to read or pretend to read the story to me. While you're looking at your book I'll look at a book. (Researcher reads in silence while child reads.)
2. Now turn to the beginning of your story. (Wait until child has book prepared.) Read or pretend to read your story to me.

Materials:

* copy of Ten Little Bears
* book for researcher

Task 5, Phase 1: Receiving and Reading a Letter

Task Sequence:

1. Child receives letter in envelope.
2. Read or pretend to read letter.

Researcher Script:

1. Here is a letter that ____________________ has sent to you.
2. Open your letter and read it to yourself. (Silence while child reads.)
3. Now, read or pretend to read your letter to me.

Materials:

- letter addressed to child

Task 5, Phase 2: Writing and Reading a Letter

Task Sequence:

1. Compose letter.
2. Read letter.
3. Address envelope.
4. Read envelope.

Researcher Script:

1. Today we are each going to write a letter. I am going to write a letter to __________________. Who are you going to write a letter to?
2. All the things you need to write a letter are on the table. (Child and researcher write their letters.)
3. Read your letter to me.
4. Now, fix your letter so that it's ready to mail.

5. Now, read it (the envelope) for me.

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6. I need to keep a copy of the letter that you wrote. So I'll mail your letter for you.

Task 5, Phase 3: Writing and Reading a Story

Task Sequence:

1. Write a story.
2. Read story.

Researcher's Script:

1. Here's a piece of paper for you, and one for me. We're going to write stories. I'll write a story on my paper and you write, or pretend to write, a story on your paper. Then, when we're done, we will read our stories to one another.
2. Silent writing—researcher and child.
3. Now, read your story to me.
4. Researcher reads story to child.

Materials:

* blank typing paper
* pencil

Sample Characteristics
Lower Socio-economic Status[1]

Name/Res. No.	Age	Sex	Birthdate	Race	Education Level		Occupation	
					Mother	Father	Mother	Father
Leatrice/#21 P	3	F[2]	4-17-76[3]	B[3]	10	--[5]	Housewife	------
Marvin/#22 P	3	M	7-29-76	B	11	12	Labor	Line Worker
Nathan/#23 P	3	M	7-27-76	W	12	8	Housewife	Common Labor
Terry/#24 P	3	M	4-29-76	B	11	--	Line Worker	------
Patty/#25 P	3	F	6-20-76	W	10	--	Housewife	------
Towanna/#26	3	F	5-19-76	B	10	--	Floor Clerk	------
Kibi/#27	4	F	6-21-75	B	10	12	Clerk Typist	Warehouse Worker
Angie/#28 P	4	F	7-20-75	W	9	12	Housewife	Unemployed
Benjamin/#29	4	M	6-24-75	B	9	9	Kitchen Supervisor	Lay-Off; Chrysler
Charles/#30 P	4	M	4-7-75	W	12	10	Insurance Clerk	Newspaper Handler
Michael/#31 P	4	M	4-7-75	W	12	10	Insurance Clerk	Newspaper Handler
Stephanine/#32 P	4	F	7-26-75	W	9	--	Housewife	------
Greg/#33 P	5	M	8-26-74	B	6	--	Housewife	------
Angela/#34 P	5	F	6-20-74	W	10	--	Housewife	------
Don/#35	5	M	9-27-74	W	12	8	Housewife	Plasterer
Dawn/#36	5	F	9-27-74	W	12	8	Housewife	Plasterer
Crystal/#37 P	5	F	4-16-74	B	12	--	Sales	------
Frank/#38 P	5	M	6-22-74	B	12	--	Nurse's Aide	------
Christopher/#39 P	6	M	5-16-73	W	12	12	Housewife	Inspector-Ford
Gerald/#40 P	6	M	3-21-73	B	10	11	Line Worker	Navy
Desmonna/#41	6	F	9-10-73	B	10	--	Housewife	------
Latisha/#42	6	F	8-6-73	B	12	11	Housewife	Bus Driver
Gina/#43 P	6	F	7-25-73	W	6	12	Housewife	Checker-Ford Motor
Vincent/#44 P	6	M	6-26-73	W	12	12	Teacher's Aide	Custodian

[1] The following criteria were used in the selection of SES:

A) Years of formal education completed by parents (low SES = high school or less)

B) Parental occupation (needed to fall within low prestige occupations as listed by Duncan, 1971)

C) Income. All children selected came from families which qualified for federal assistance based on total income and family size at their respective school; all children 3, 4, and 5, with the exception of 3 (Kibi, Michael, and Charles) came from families whose total income qualified them for 80% federal subsidy of their child's preschool program.

D) Residence. All children in low SES sample came from School 114 attendance area, a lower class neighborhood in Southeastern Indianapolis. Children bused into School 114 were excluded from the sample. Most children lived in Federal Housing Projects which bordered School 114.

[2] F=Female; M=Male

[3] Only children who ranged in age 3.0-3.6, 4.0-4.6, 5.0-5.6, 6.0-6.6 at the time of data collection were included in the sample population. This criterion meant that only children born between March and August were included in the population sampled.

[4] B=Black; W=White

[5] Single parent families

Sample Characteristics
Middle Socio-economic Status[1]

Name/Res. No.	Age	Sex	Birthdate	Race	Education Level		Occupation	
					Mother	Father	Mother	Father
Shannon/#45 P	3	F[2]	4-3-76[3]	W[4]	12	14	Computer Operator	Small business-Owner
D.J./#46 P	3	M	5-24-76	B	16	15	Postal Clerk	Factory Worker
Robert/#47	3	M	4-17-76	W	12	12	Secretary	Env. Control Specialist
Jerry/#48 P	3	M	5-7-76	W	13	14	LPN	Journeyman
Tasha/#49 P	3	F	5-27-76	B	14	12	Fork Lift Operator	Painter
Heather/#50	3	F	6-3-76	B	12	12	Assembler	Machinist
Misty/#51 P	4	F	7-6-75	W	12	12	Driver	Security Manager
Ben/#52 P	4	M	9-29-75	W	17	17	Teacher	Teacher
Mike/#53	4	M	7-22-75	W	12	12	Assembler	Machinist
Tassha/#54	4	F	3-23-75	B	14	16	Secretary Supervisor	Musician
Brandyce/#55	4	F	9-2-75	B	12	16	Secretary	Small business-Owner
Charvin/#56	4	M	9-30-75	B	16	16	Teacher	Accountant
Sally/#57 P	5	F	7-9-74	W	17	16	Teacher	Finance Manager
Jill/#58 P	5	F	5-29-74	W	12	12	Secretary/Bookkeeper	Supervisor
Alpha/#59	5	F	4-14-74	B	17	16	Psychological Consul.	Government Accountant
Jeff/#60 P	5	M	5-23-74	B	12	12	Order Analyst	Screw Machinist
Donald/#61	5	M	9-4-74	B	14	17	Communications Spec.	Teacher
Jason/#62	5	M	7-11-74	W	12	13	Secretary	Taxi Driver
Jake/#63 P	6	M	9-1-73	W	16	19	Housewife	IBM
Lashell/#64 P	6	F	8-8-73	B	15	14	Teacher	Parts Inspector
Eugene/#65 P	6	M	8-20-73	B	14	15	Cashier	Greyhound Bus Driver
Natasha/#66 P	6	F	5-17-73	B	15	15	Secretary	Dock Supervisor
Marc/#67 P	6	M	7-16-73	W	15	16	Police Officer	Social Ins. Rep.
Alanna/#68 P	6	F	7-26-73	W	15	12	Legal Secretary	Machinist

[1] The following criteria were used in the selection of Middle SES:

A) Years of formal education completed by parents (Middle SES = high school or more, but not above Masters).
B) Parent Occupation (needed to fall within or very near middle prestige occupations as listed by Duncan, 1971).
C) Income (families of children selected did not qualify for federal assistance; several families where occupation and years of formal education just met our criteria for middle SES occupation and education sent their child to a private school for day care of preschool and thus were included in the middle SES sample--this was true of Heather (#50), Mike (#53), Jeff (#60), and Jason (#62).
D) Residence (all children in middle SES sample came from outside the immediate area surrounding School 114; most 3, 4, and 5 year olds were involved in private day care or preschool experiences which required a tuition for enrollment; several 6 year olds were bused to School 114 from outside areas; most children came from School 62's attendance area, a distinctly middle class residential area).

[2] F=Female; M=Male

[3] Only children who ranged in age from 3.0-3.6; 4.0-4.6; 5.0-5.6; 6.0-6.6 were included in the sample population. This criterion meant that only children born between March and August were involved in the population sampled.

[4] B-Black; W-White

7.2.2 MIDDLE SES GROUP

Sample Characteristics
Summary Statements

Race and Sex

		3 year olds		4 year olds		5 year olds		6 year olds		
		Male	Female	Male	Female	Male	Female	Male	Female	
Middle SES	Black	1	2	1	2	2	1	1	2	12
	White	2	1	2	1	1	2	2	1	12
Lower SES	Black	2	2	1	1	2	1	1	2	12
	White	1	1	2	2	1	2	2	1	12
		6	6	6	6	6	6	6	6	N=48

Parental Education

Lower SES - 8 fathers and 14 mothers had completed less than a high school education (12 years).

6 fathers and 10 mothers had completed high school (12 years).

Middle SES-8 fathers and 9 mothers had completed high school. The remaining 16 fathers and 15 mothers had completed some work beyond high school.

9 fathers and 6 mothers had completed 4 years of college (16 years or more).

Family Status

Lower SES - 2 children are living with a guardian other than their natural parents.

3 children come from families which school officials suspect of child abuse either because of events which have happened to this child or because of events which have happened to other children in the family.

10 children come from single parent families; all single parent families were headed by a female.

7.2.3 SUMMARY STATEMENTS

Middle SES-All children came from 2 parent families. (Although this was not a criterion used in selection, the actual sample chosen did not include any single parent families. Six single middle SES parents did return permission slips volunteering their child's participation in the study. In comparison to the lower SES sample, far fewer middle SES homes in the population were single parent families. This, then, is clearly one major difference between our middle and lower SES samples, but may as such reflect real difference between lower and middle class life style).

Sample Characteristics
Upper Middle/Higher Socio-economic status[1]

Name/Research #		Age	Sex[2]	Birthdate[3]	Race[4]	Education Level (Parents)
Nathan	01	3.1	M	9-19-74	W	Professor
Michelle	02	3.2	F	8-12-74	W	Professor[5]
Tyler	03	3.3	M	7-16-74	W	Dentist
Michelle	04	3.4	F	6-07-74	W	Insurance Salesman
Boyd	05	3.5	M	5-21-74	W	Professor
Alison	06	4.1	F	5-15-73	W	Professor
Megan	07	4.2	F	3-21-73	W	Dentist
Daniel	08	4.2	M	8-08-73	W	Engineer
Dawn	09	4.3	F	7-19-73	W	Professor
Jeremy	10	4.5	M	12-25-73	W	Professor
Dawn	11	5.1	F	8-22-72	W	Graduate Student
Charles	12	5.3	M	6-01-72	W	Graduate Student
Teddy	13	5.4	M	7-01-72	W	Professor
Mara	14	5.5	F	4-15-72	W	Teacher[5]
Jonathan	15	5.6	M	3-27-72	W	Graduate Student
Heather	16	6.0	F	9-22-71	W	Limestone Worker/Supervisor
Emily	17	6.1	F	8-21-71	W	Accountant
Leslie	18	6.2	F	7-20-71	W	Teacher
Justin	19	6.4	M	5-25-71	W	Graduate Student[5]
Denver	20	6.5	M	4-02-71	W	Apartment Manager/Disabled

The following criteria were used in the selection of Upper Middle/Higher Socio-economic children:
a) Years of formal education by father (or mother in single parent families);
b) Parent Occupation (Needed to fall within or at the upper middle levels of prestige occupations as listed by Duncan, 1971);
c) Residental area (Selected by suburbs where professionals lived)

[2] F=Female; M=Male

[3] Only children who ranged in age from 3.0-3.6;4.0-4.6;5.0-5.6;6.0-6.6 were included in sample

[4] W=White

[5] Single Parent Families

7.3 DATA COLLECTION SCHEDULE

7.3.1 VIDEOTAPING SCHEDULE

Day 1

- Read a Book
- Uninterrupted Writing
- Uninterrupted Drawing

Day 2

- Environmental Print - Condition 1
- Write a Story

Day 3

- Environmental Print - Condition 2
- Language Experience Story
  - Write
  - Read
- Read a Letter

Day 4

- Environmental Print - Condition 3
- Language Experience Story
  - Reread
- Write a Letter

7.3.2 DATA COLLECTION SCHEDULE

Data Collection Schedule

September 28:	Take remote video equipment to Indianapolis and install in School 114
October 12:	Orient videotape group
October 15-18:	Videotape 1st group (5 subjects)
October 19:	Orient new videotape group
October 22-25:	Videotape 2nd group (6 subjects)
October 26:	Orient new videotape group
October 29-November 1:	Videotape 3rd group (7 subjects)
November 2:	Orient new videotape group
November 5-8:	Videotape 4th group (7 subjects)
November 9:	Orient new videotape group Move equipment to Little People's Prep and install
November 12-15:	Videotape 5th group (12 subjects)
November 15:	Orient new videotape group
November 16, 19-21:	Videotape 6th group (11 subjects)
November 26:	Catch-up videotape session for any children who were ill in last taping group
November 28:	Bring video equipment back to Bloomington

7.4 PARENT AND TEACHER INTERVIEW FORM

Parent Interview

Parent/Child Encounters with Language in the Home

1. We are interested in the experiences children have that help them learn to read and write.

   Tell me about any things helpful to learning to read and write that someone has done with ______________________________.

2. Tell me about any things helpful to reading and writing that ____________________ does by ________ self.

   Does ________________________ watch TV much?

   What programs does _____________________________ watch?

Professional Agencies Involved in Language Instruction

3. What schools or programs has ______________________ attended?

   What instruction in reading and writing did/does __________________ receive there?